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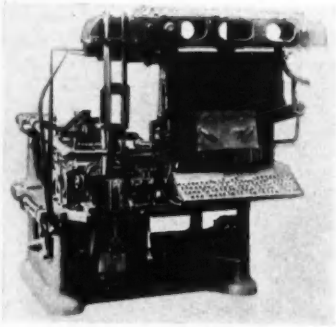
PAPER TRADE JOURNAL

APRIL 11, 1946

60th YEAR
1886 — 1946



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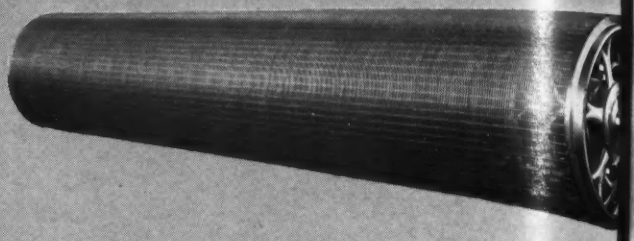

Who ever heard of a Cylinder Mould taking loads of 60 to 100 lbs. per lineal inch? They don't, but Downingtown Extractors, which are similar wire faced rolls, take these nip pressures day-in-and-day-out. Of course, our over 60 years' experience in building Cylinder Moulds helped us develop Extractors to take this heavy punishment. Likewise, our experience in building Extractors now helps us make Cylinder Moulds that are "Built Like a Battleship." Cylinder Mould nip pressures of 25 to 40 pounds per square inch are nothing for our heavy construction employing the best materials and careful workmanship.

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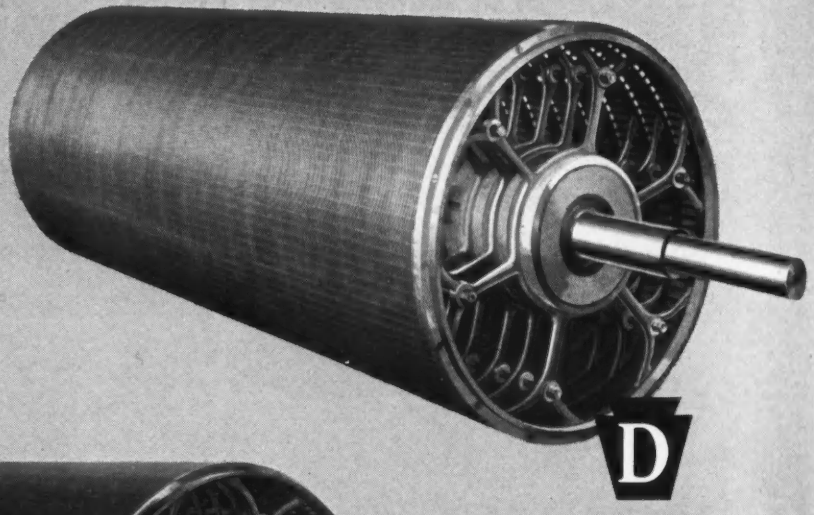

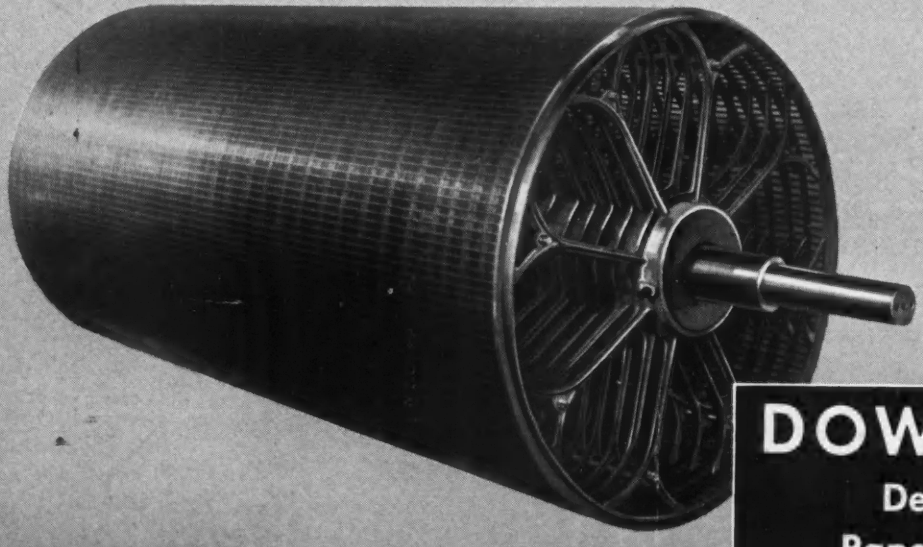

PHOTOS — TOP TO BOTTOM
Small, Heavy Duty Mould, 18" dia.
Special, Light Duty Mould, 36" dia.
Extra Heavy Duty Mould, 48" dia.
Large, High Capacity Mould, 60" dia.

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Paper Making Machinery

PAPER TRADE JOURNAL

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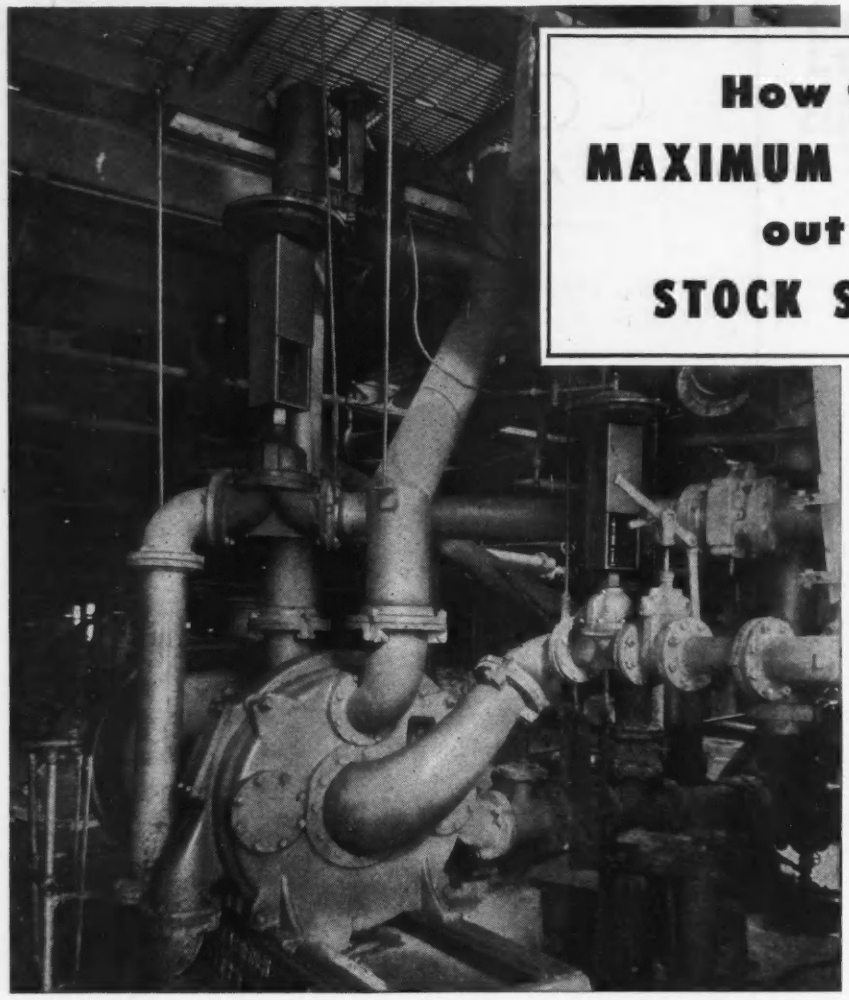

How to get MAXIMUM EFFICIENCY out of a STOCK SELECTOR

With the Taylor Flex-O-Timer timing the control valves, operators are getting high efficiency and low maintenance costs with the new Dilts Classifier.

THE picture above shows one of the latest developments in stock selectors. One reason it performs so efficiently is the valve control system worked out by Taylor Instrument engineers.

The manufacturer was faced with a serious problem in maintaining a uniform schedule of valve operations in the rejected-stock lines from the machine—also in keeping the reject valves in good operating condition.

Taylor Engineers solved the problem with a standard timing control, the Taylor *Flex-O-Timer*, which actuates the Saunders type reject valves by means of standard Taylor Motosteel Diaphragm Motors.

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Obviously, Taylor couldn't have worked out this application so successfully without a good many years of experience and research in the pulp and paper field.

This experience is yours for the asking. The Flex-O-Timer can easily be adjusted to handle any schedule of valve operations to suit any particular finish. And this same setup can be applied with equally good results to other types of stock selectors. Ask your Taylor Field Engineer, Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. Instruments for indicating, recording, and controlling temperature, pressure, humidity flow, and liquid level.

Taylor Instruments
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IN HOME AND INDUSTRY

Vol. 122, No. 15

PAPER TRADE JOURNAL

April 11, 1946

Title Reg. U. S. Pat. off.

Midwest Merchants Dig Into Inventories

While Jobbers Continue To Contend With Heavy Demand Chicago Seeks For Bright Spots In the Outlook — Container Corporation Nearly At Capacity — Trade Hears of Possible Newsprint Boost.

CHICAGO—With one eye on the meetings of the National Paper Trade Association being held in New York City and the other on woefully depleted shelves and piled up unfilled orders, the Chicago paper trade last week reported "shortages as usual." One of the bright spots in the weekly report came from the wrapping paper industry where mills were said to be operating at or above capacity with the advent of seasonal weather. It was also expected here that imports from the Scandinavian sources would begin to increase shortly but here, too, were pessimists who pointed out that as long as price ceilings were on in this country the pulp would flow to markets where returns were greater. The trade also looked for some increases in the price of newsprint to reflect the increase in wages which now are reported to be around 15 cents an hour.

Meanwhile, Chicago jobbers, faced with terrific demand from folks bent on capturing their share of a tremendous demand for all products, were tearing into accumulations of inventories which, long ago, were reported in the "depleted" stage. All lines were reported at top ceiling prices and in firm demand. Waste paper collections were only "fair" with mill shortages reported in many instances.

Call Off Sapeye Meeting

The regular Monday, April 1, meeting of the Salesmen's Association of the Paper Industry, western division, was called off in a desire to permit everybody to attend the N.P.T.A. meetings in New York City who could possibly make the trip. Then, too, Ed Edwards of the Howard Paper Company was making an extended western business trip and with the vice president away and the new president, "Pat" Patterson, laid up with a cold, they called the whole thing off. However, meetings were resumed April 8.

Container Earnings Up

Although sales are running only 1 per cent ahead of 1945 volume, the Container Corporation of America's earnings for January and February of 1946 were running more than double according to a report made by Walter P. Paepcke, president. Repeal this year of the excess profits tax accounted for the improvement in the net. Earnings for the two months period were estimated by Mr. Paepcke at 80 cents a share compared with 39 cents in the first two months of 1945. Discussing the production outlook, Mr. Paepcke said the company's plants are operating at as near capacity as shortages of materials, particularly waste paper, will permit them to operate. Mr. Paepcke reported that Container has acquired the California Container Corporation through an exchange of shares and will consolidate its earnings in the 1946 report though leaving the West Coast firm's corporate status intact. The company plans to also secure the Sefton Fibre Can Company in the near future. California Container Corporation earned $250,000 in 1945 and the Sefton Fibre net for the year was about $65,000.

Paper Trade Backs Red Cross

According to a report issued March 30 by the Red Cross Fund Campaign headquarters in Chicago, the Paper Division of the campaign has secured $44,-173.98 or 88 per cent of its total quota of $50,000 thus far in the drive. Wesley M. Dixon, vice president of the Container Corporation of America, is chairman of the paper group. The Graphic Arts Division, of which Wesley K. Lunt of the W. F. Hall Printing Company is chairman, has raised $36,739.00 or 61 per cent of its quota. For the over-all campaign, 76 per cent of the quota has been reached as the final quarter gets under way.

Ask for Newsprint Boost

From Chicago newspaper association sources comes the word that the advisory committee of the newsprint industry expects to ask the Office of Price Administration for a $6 ton price increase. The action is reported predicated on the idea that as long as Canadian producers got a similar increase the United States producers should fare equally as well. The actual facts of the matter, according to local newsprint sources, are that the expected imports are now coming in because of this inequity and the fact that other countries, badly needing imports, seem to have no price controls to prevent them from going after the business. Even the Department of Commerce is quoted as saying that if domestic production declines or if Swedish shipments are not on time or fall below expectations some mills will have to reduce operations materially.

Professional Group to Discuss Starch

The Chicago Professional Paper Group will hold its regular monthly meeting on April 16 in the dining rooms of the Chicago Bar Association. A panel discussion on "Weathering the Starch Crisis" will feature the evening program.

Service Men Return to Kimberly-Clark

Corporation Finds 93 Percent Have Come Back To Mill On Basis Of First 50 Percent Discharged — Appleton Wire Will Add To Plant — Van Giesen Back At Post — Tells How Dams Benefit.

APPLETON, Wis. — Kimberly-Clark Corporation, Neenah, finds that 93 out of every 100 service veterans have come back to work at the corporation, and the mill management reports that there are very few indications they have been away from the company for the long years required to win a worldwide war. This rate of return, covering all K-C mills, is based on statistics including about 1,300 persons, and is said to be the highest such return yet announced by any large-scale employer in the country. About 2,600 of the corporation's men and women entered the country's service. An additional 300 veterans are now part of the company staff, but they are new names and are not included in the tabulation. Most of them are at work for the first time.

"Going into business for myself" topped the list of reasons given by veterans who are not returning. Others were jobs elsewhere and women employes married in service and now living in the husbands' communities.

"It is immensely satisfying to us that 18 disabled veterans have fitted into new assignments and are doing them well, including one totally blind Kimberly-Clarker," Cola G. Parker, president, declared.

A supplementary plan of compensation operated by Kimberly-Clark has thus far paid to its war veterans upward of $275,000 in the form of military service compensation.

Nekoosa-Edwards Adds Diesel Switch Engine

Nekoosa-Edwards Paper Company has purchased a new 80-ton, 500-horsepower Diesel electric locomotive and has put it into service spotting cars and handling freight in the Port Edwards, Wis., mill area and between Nekoosa and Port Edwards mills. A 65-ton engine has been transferred to Nekoosa. This is the ninth switching engine the company has purchased since 1892.

More than a billion pounds of cargo were handled by the company during 1943. A total of 6,932 cars were switched to the plants and between the mills, carrying a tonnage of 212,365 on the Nepco-owned railroad. Outgoing and incoming cars totaled 8,900, with a total tonnage of 369,460. The aggregate total of cars handled during the year was 15,832, having an aggregate weight of 581,826 tons or a billion pounds. It included: 9,840 cars of pulpwood; 1,484 cars of paper; 1,008, pulp; 1,100, coal; 432, bleach liquor; 324 limestone and sulphur, and the rest various cars of miscellaneous materials.

Appleton Wire to Erect Addition

Appleton Wire Works, Appleton, Wis., has obtained a city building permit to erect an addition to its factory. The masonry and steel structure, measuring 87 by 62 feet, will cost about $35,000. Orbison and Orbison, Appleton, are the architects, and Hoffman Construction Company, Appleton, has the contract for the building.

Maj. Van Giesen Back at Forestry

Major Chester L. Van Giesen, former supervisor of the Chequamegon National Forest, Park Falls, has been appointed assistant to the chief of timber management in the North Central region, the United States Forest Service announced April 3. Recently released by the army, he began his duties last week.

K-C Stages Safety Contest

A new safety contest was started April 1 at the Kimberly, Wis., mill of Kimberly-Clark Corporation, and it will continue until September 30, with the various departments grouped into six competing teams. During the six-month period, each team will sponsor a one-hour safety program each month at the village clubhouse.

Rules provide that each lost-time accident will count one point against the team of which the injured employe is a member. Every four cases requiring a physician's care will count one point, the same as one lost-time accident. Prizes to be awarded at the close of the contest will include $300 to the first place team, and $50 less to each of the other teams in the order they place.

Thilmany Exhibits Color Movie

C. V. Davison, regional manager of the National Association of Foremen, Dayton, Ohio, was the speaker last week at a dinner meeting of the Thilco Foreman's Club of Thilmany Pulp and Paper Company at the Elks Club, Kaukauna, Wis. The first showing of a new Thilmany technicolor movie, "This Is Thilmany," was a feature. The picture portrays production and personnel at the mill. Lee Palmer, personnel manager of the Combined Locks mill, and John Reeve of the Appleton Coated Paper Company, Wis., and other members of their organization attended the meeting.

Kyler Describes Wisconsin Valley Dams

Public and industry benefits provided by the Wisconsin Valley Improvement Company, Wausau, in constructing and operating 22 reservoirs on the 430-mile-long Wisconsin River to enable paper mills and electric companies to produce hydro-electric power efficiently were described Friday, April 5, to the Midwest Power Conference in Chicago. M. W. Kyler, vice president and general manager of the Improvement company, contrasted this private enterprise with government power projects. He referred to the successful operations of the company as an example of the free enterprise system at work in river control and power fields. He told the conference that the company's reservoirs have a present storage capacity of 17 billion cubic feet of water.

"Public and industrial benefits are paid for by our stockholders, composed of paper mills and electric companies owning plants on the river," Mr. Kyler said. "Our company has never been an expense to the public treasury. This cannot be said of government projects. In addition, our investory-owned company pays local, state and federal taxes, amounting in 1945 to 31% of the gross revenue.

"The 23 power dams on the Wisconsin river have an aggregate operating head comparable to that of Boulder Dam."

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Tee flanged fitting

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Labor Relations Serene in New England

Sample-Durick Adopts Pension Retirement Plan — Perkins Works On AFL Labor Contract—Smith Paper Retires Veteran Employes —Strathmore Promotes Two Executives—Writing Paper Re-elects.

CHICOPEE, Mass.—The Sample-Durick company, makers of folding paper boxes, has informed its employes of a new pension plan. The announcement was made by William W. Sample, president, after approval by the board of directors. Sample stated that the Massachusetts Mutual Life Insurance Company has been selected to install and service the plan. It will provide monthly pensions for all eligible employes who reach 65 and is designed to supplement social security income. It is the desire of the company that their employes be assured of receiving enough income for a comfortable living, so that upon reaching the age of 65, they will be assured of a chance to actually retire without the need of working.

The company will be 25 years old in 1948. It employs 90 at present and has five employes whose total service with the company amounts to 100 years. Sample stated that as soon as skilled personnel and additional raw materials could be assured, the second shift, now being operated, will be expanded with additional employment expected in all departments.

Prepare New Perkins Contract

Representatives of the B. F. Perkins Co., Holyoke, Mass., and the newly organized AFL union, with AFL Organizer, William Malone, met at the Perkins plant in Williamsett recently and began negotiations on a written contract covering wages, hours and working conditions. The session was largely concerned with getting into the contract certain conditions already in force at the plant. While the union's proposals include minimum wage rates of 65 cents an hour for women and 75 for men this point did not come up for discussion. Another meeting is scheduled for the near future.

There are 102 employes of the company in the bargaining group. About a dozen are women employed in the company cotton shop, where cotton is processed for use in calender rolls on paper finishing machines. Union representatives in the negotiations besides Malone are President Ward Sullivan and Francis Lamirande. The company was represented by J. Lewis Perkins, George J. Benard and Atty. Ralph Spooner of Springfield.

Smith Retires Eleven Old Timers

Eleven employes of Smith Paper, Inc., Lee, Mass., have been retired on pension. All of them have reached the age of 70 or over, and two of these men began work for the concern before the turn of the century. Those retired are Edward W. Gibbons, Patrick J. Bradley, Angelo DiSimoni, Philip J. Lyons, Sr., James McTigue, Sr., John J. Kelley, James J. Powers, Victor Stringer, John H. Killelea, Michael Delaney and Timothy Donovan.

Gibbons began work at Smith Paper in 1905 and is the only surviving superintendent prior to its reorganization in 1917, when the Smith family sold their interests, which dated from the original Elizer Smith, who founded the company in 1835. Until 1932, Gibbons was superintendent of the Centennial Mill which was shut down that year. He then took over the supply and transportation departments. As these departments expanded he was placed in charge of the transportation department, a position he held until his retirement.

Bradley is the oldest in point of service. He started with the concern in 1894 and has been a beater engineer for many years. All the others joined the company since the turn of the century.

Strathmore Promotes Two

Strathmore Paper Company, West Springfield, Mass., has appointed Paul A. Wilks as controller of the company. Wilks is on terminal leave from the army, having been released by Springfield Ordnance District recently. Prior to the war, Wilks was chief accountant for Strathmore, which position he held since 1933, having gone with the company in 1929.

During World War I he served as a lieutenant in infantry. For his work during the war he received the War Department Commendation. He will be released to inactive duty next month with the rank of colonel.

George Maxwell of West Springfield has been named to the post of auditor of the company. He was formerly office manager. Maxwell joined the paper company in 1909 and has been with them continuously since then with the exception of World War I service when he was with a medical detachment of the 79th division, 311 machine gun battalion.

Altieri Resigns: O'Connor Returns

Angelo M. Altieri, assistant research director of The Fitchburg Paper Company, Fitchburg, Mass., has resigned to join Tileston & Hollingsworth company of Boston as head of their research department. A graduate of Massachusetts Institute of Technology, he had been with the company since 1933.

Former Lieut. John W. O'Connor, has been named sales manager of the Fitchburg Paper company. He has just returned after two years service in the navy. O'Connor joined the concern in 1937 as New York salesman and was promoted to New York sales managership in 1941. He was brought to Fitchburg in 1942 to become New England sales manager.

Writing Paper Re-elects

At the annual meeting of the American Writing Paper Corporation, Holyoke, Mass., held at the main office all directors were reelected. They are Thomas H. Blodgett, Peter Freedman, A. E. Payson, Lysle E. Pritchard, E. C. Reid, George E. Warren and Leon M. Yoerg. The directors will meet at a later date to elect officers for the year.

Fowler Funds to Maintain Library

A trust fund of $25,000 to maintain the ground and buildings of the Hall Memorial library in Ellington, Conn., was provided in the will of Harriet E. D. Fowler, late of Holyoke, widow of a well-known Holyoke paper manufacturer. Her will also left to her nephew, Ralph N. Fowler, all of the shares she held in the Hampden Glazed Paper and Card Co.

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DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

Kellogg Urges Federal Forest Control

Dominion Provinces Lack Funds and Unity For Proper Control — Venezuela Seeks Canadian Paper — British Paper Output Hit Hard By World War II — Gatineau Plans To Bleach Sulphite Pulp.

MONTREAL, Que.—The Newsprint Association of Canada has placed itself squarely behind a revolutionary change in the control of the forests of the Dominion. This policy has been launched in a public speech by Paul Kellogg, general manager of the Association, before the Canadian Club of Fort William, Ont. Briefly, the policy calls for assumption by the Federal Government of the management of all the forests of the Dominion, despite the fact that the forests are owned by the Provinces.

Hitherto the Federal Government has been chary of any measures which might be interpreted as trespassing on provincial jurisdiction. The development of the huge lumbering industry ever since Confederation, and the spectacular rise of the pulp and paper industry as well as the chief source of foreign exchange for the Dominion, have taken place entirely under the jurisdiction of the provinces.

Says Present Control Inadequate

A substantial part of the revenues of the provincial governments of the Maritime Provinces, Quebec, Ontario and British Columbia, is derived from royalties collected from use of the forests, and is devoted to general administrative purposes. It is the contention of Mr. Kellogg that it is impracticable, from both financial and geographical reasons, for the obligation to fall on the provinces to take the measures now imperatively necessary for the conservation and reforestation program against fire, disease and insect pests. That, he says, is clearly the function of the Federal Government, looking to the welfare of the nation as a whole, for most of the provinces haven't the funds to underwrite the measures required, "and even if they had, the result would be groups of autonomously-controlled forest land, unnaturally bounded by provincial borders."

Illustrating this point, he told of the enormous waste which has been going on for years through inadequate and divided control, saying that from 1933 to 1942 nearly one-third of the present rapid depletion of the forests had been caused by fire, insects and disease for which unified control could provide the proper remedy. It was, he said, no longer a provincial problem but one for the nation as a whole, for the ramified operations and immense purchases of the forest industries, chief among them pulp and paper, touch hundreds of thousands of people and virtually every field of commercial endeavor in Canada.

Forestry Group Finds "Grave Emergency"

Backing up the stand of the Newsprint Association is the Canadian Forestry Association, whose president, Robson Black, says that 250,000 acres of forest land are being "cancelled out" every year in Canada by unwise exploitation, fires, disease and insect pests. All this, he declares, constitutes such a grave and menacing emergency that first and foremost in any security plan in the Canadian economy is placing the forests from sea to sea under the rule of conservation. "The Canadian enonomy," he adds, "is founded upon timber, and the foremost job of Canadian citizenship is to put that fact in the front window and keep it carefully dusted."

The Market in Venezuela

M. T. Stewart, Canadian Trade Commissioner at Bogota, thinks there is a future for the Canadian paper trade in Venezuela. Throughout the war, he reports, that country depended on Canada for newsprint, and it should be possible for Canada to retain a large share of the market. Venezuela, he adds, offers an attractive market for paper of all kinds. In 1939 imports of newsprint and printing papers totalled 4,471,452 kilos, valued at 889,770 bolivars (the bolivar is currently about equal to 33 Canadian cents). The principal suppliers were the United States, Canada and Germany. At the present time kraft paper for bags is used in large quantities in the cement and sugar industries, and the former industry is due for a very considerable expansion of production, up to 1,300 tons daily, in the near future.

Paper Output Slashed in Britain

Figures showing how war conditions affected paper production and consumption in the United Kingdom are published by the Department of Trade and Commerce. From 1941 to November, 1945, the average weekly production of newsprint ranged between 2,000 and 3,000 tons, as compared with 5,730 tons in 1940. Weekly output of other papers and board in the same war period averaged from 16,500 to 24,700 tons, as against 29,300 tons in 1940.

Average weekly consumption of newsprint, which was 23,100 tons in 1939, ranged between 4,700 and 6,100 tons from 1940 until late in 1945, the higher figure being reached only in the summer and fall of 1945. Consumption of other paper and board declined sharply from 74,600 tons in 1939 to 38,600 tons in 1940 and 27,200 tons in 1941, after which it varied between 26,100 and 19,300 tons until June, 1945, when it rose briefly to 28,000 tons, a figure repeated in November.

Mill Improvements at Gatineau

The Canadian International Paper Company's Gatineau mill is extended by the addition of facilities for bleaching sulphite pulp. On completion, the mill will be able to produce either dissolving pulp or bleached or unbleached paper pulp, as the market requires.

Bolton Award Contest Nearing Close

The second Bolton Award Contest is under way—the subject this year being "How Superintendents and Foremen Can Help Management", closes May 1st. There is still time for entries from members of the American Pulp and Paper Mill Superintendents Association and to all non-members, superintendents and foremen presently employed in North American pulp and paper mills. Circulars explaining the rules of the contest may be obtained from G. W. Craigie, Secretary-Treasurer, American Pulp and Paper Mill Superintendents Association, Inc., 220 East 42nd Street, New York 17, New York.

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2. Simplifies trough construction because designed so that both chain and spur lay flat in the trough.

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Birmingham 3 Chicago 1 Denver 2 Houston 5 New York 7 St. Louis 2
Boston 16 Cincinnati 2 Detroit 12 Huntington 19 Philadelphia 3 Salt Lake City 1
Scranton 3

Vancouver Firm to Serve Pulp Industry

VANCOUVER, B. C.—Recent announcement by the Canadian White Pine Company Ltd. that it will discontinue making sawdust and will supply its mill waste in chip form to the pulp and paper industry, has aroused considerable interest in Vancouver. Repercussions have been felt not only in the lumber industry but also by all firms associated with the milling trade.

Other lumber mill operators admit that sooner or later they will convert at least part, or in some cases, all, of their waste into a by-product for the pulp and paper industry.

They point out, however, that this process will take at least ten years, depending on the demand from the pulp mills. Canadian White Pine, however, announces that by the middle of this summer they expect to have practically entirely discontinued producing sawdust for home fuel.

The Canadian White Pine Company has already installed machinery for the production of pulp chips, but state they are delaying introduction of the change until late mid-summer, to give their customers time to convert their stoves and furnaces to other types of fuel or make new connection with other firms for the supply of sawdust.

Research in the lumber industry has resulted in development of increased markets for waste wood products in the pulp and paper industry, and this is expected to be reflected in the conversion not only of sawdust, but also of mill wood into chips in increasing quantities for future years.

Southern Paperboard Buys 180 Acres

George E. Dyke, Chairman of the Board and President of Robert Gair Company, Inc., made known late last week that Southern Paperboard Corporation, a subsidiary of Robert Gair Company, Inc., in which Fort Wayne Corrugated Paper Company has a substantial interest, has exercised an option to purchase approximately 180 acres of land at Port Wentworth on the Savannah river near Savannah, Georgia, on which it will erect a sulphate pulp and paperboard mill as soon as possible.

Gair and Fort Wayne have invested $12,000,000 in Southern Paperboard Corporation, of which approximately $9,000,000 is to be expended for the mill and equipment, which will have a daily capacity of 450 tons, or about 135,000 tons of container board per year, all of which will be converted into shipping containers at the fabricating plants of the two companies in the North.

Southern Paperboard Corporation has organized a wholly owned subsidiary, Gair Woodlands Corporation, with a paid in capital of $2,000,000, which will carry on all the wood and land operations incident to logging the mills. T. W. Earle, who has been associated with the Gair organization for the past year, acquiring woodlands, is president of Gair Woodlands Corporation.

Sidney Roofing Buys Hydropulpers

VANCOUVER, B. C.—Sidney Roofing & Paper Company Ltd. has placed a contract, valued at $70,000, with Alexander Fleck Ltd., Ottawa, for the supply of two hydropulpers. The new machinery will be installed at the Victoria plant of the company by the beginning of 1946, and will increase the paper output of the mill by 20 tons per day.

U. S. Enters Racquette River Suit

SYRACUSE, N. Y.—The federal government has been granted the right to enter as plaintiff an action brought by a Tupper Lake contractor against a former Tupper Lake pulp manufacturer, U. S. Attorney Irving J. Higbee announced. An order granting this right has been signed by Supreme Court Justice John Alexander of Schenectady on motion by Assistant U. S. Attorney Edmund Port to intervene on the ground a tax lien has priority over other claims.

The original action was brought by John Davignon, Tupper Lake contractor, to set aside a conveyance made by Stanley H. Sisson, also of Tupper Lake, in which the latter turned his pulp business interests, large wood holdings and equipment over to the Racquette River Paper Co., of Potsdam, December 21, 1942. Davignon also claims to be a creditor of Sisson, alleges Sisson owes him $18,770 for work, labor and services, plus $7000 or two notes. In the action he asked that a receiver be appointed and the sale of the business to the Racquette River Paper Company be voided.

Pending a motion to dismiss the original action, Judge Alexander withheld decision of the government's motion. The appeals court denied the motion to dismiss and Judge Alexander then granted the government motion to intervene. Port, in his motion, claimed the Sisson interests owe federal social security taxes amounting to $12,145 and that the claim has priority over others.

Howard Mills Merger Completed

DAYTON, Ohio—By virtue of a merger agreement filed in the office of the secretary of state at Columbus, final steps have been taken to merge into one corporation the Aetna Paper Co. and the Dayton Envelope Co., both of Dayton, the Howard Paper Co. of Urbana, and the Maxwell Paper Co. of Franklin. Completion of this merger is the last of a series of steps which has consolidated the companies into one corporation now known as Howard Paper Mills, Inc.

On March 1, the Howard Paper Co., merged with Aetna Paper Co. The inclusion of Maxwell Paper Co. and the Dayton Envelope Co. now completes the formation of Howard Paper Mills, Inc., at Dayton.

The other organizations will continue to function as divisions of Howard Paper Mills, Inc., without change of corporate directors or officers.

Hailer Joins Whittaker

F. J. Hailer, Jr., formerly with the plastics division of Monsanto Chemical Company, has joined the sales staff of Whittaker, Clark & Daniels, Inc., New York. He will handle Whittaker's general line of non-metallic minerals in the New England area. Mr. Hailer was in the sales promotion and advertising departments at Monsanto and, more recently, spent four years as a pilot in the Navy Air Corps.

Calco Opens New York Office

The offices of the metropolitan district sales division, dyestuff department, of the Calco Chemical Division, American Cyanamid Company, Bound Brook, New Jersey, will be located as of April 1st, at 30 Rockefeller Plaza, New York, N. Y. Paul J. Luck, metropolitan district sales manager, will be in charge of all sales activities of the department.

Maine Pulpwood Cut is Ready

BOSTON, Mass.—Preliminary reports from Maine woods camps indicate that the 1945-46 pulpwood cut was better than expected. This was due to more mechanical equipment rather than more woodsmen, as the latter were hard to get throughout the season. The cut just ending probably marks the last one in which German war prisoners will be used. Paper and pulp companies are already disturbed over prospects for replacing those laborers.

The annual log-drivers on the Kennebec and Penobscot Rivers in Maine will get under way in about a month. Only pulpwood, or four-foot lengths, will be floated to the mills this year, as the so-called long lumber drives in this state are confined to the Machias River. There will be no drive of any kind on the Androsgoggin.

Drivers wait until the rivers have started to recede from their spring freshet pitch before moving the logs, and timing this operation takes considerable skill and experience. A heavy rain the first few days of a drive may float the wood onto river banks.

Wood cut this winter has been piled along the banks of the Penobscot and Kennebec, waiting to be pushed into the waters with bulldozers and manual labor. The Great Northern Paper Company again had the largest cut this year, it is believed.

Mullen Container Corporation Sold

BENTON HARBOR, Mich.—The Mullen Container corporation at 3 Industrial road, St. Joseph, has been sold to the A. W. Mendenhall company, paper distributors, of Chicago. The sale, which included all out-standing, buildings, and equipment of the corporation, was completed about three weeks ago. Corporation officials who resigned at that time were, in addition to President W. E. Hatch, Treasurer C. Moulton Davis, 618 Main street, St. Joseph, and Secretary Edward N. Hatch, Lake Shore drive, St. Joseph.

Edward Wolfberg, of Chicago, is president of the Mendenhall company, and T. R. Wolfberg, also of Chicago, is general manager, according to Robert O'Reilly, 412 N. State street, St. Joseph, manager of the Mullen plant.

There have been no personnel changes at the plant, O'Reilly said today.

To Open Box Plant in Beacon

BEACON, N. Y.—Henry L. A. Forrestal, president of the Forrestal Holding Corp., announced today that negotiations have been completed with the Beacon Paper Box Co., Inc., to lease the work shop of the Forrestal Construction Co., Eliza St., for the manufacture of paper boxes, principally for the hat industries.

The Beacon Paper Box Co., Inc., has been established by the Topel Hat Box Co., Inc., and the Aramac Packing Supply Co., Inc., both of New York City, because the New York firms have a large volume of business in this area.

Windsor Locks Plant Sold

WINDSOR LOCKS, Conn.—The Windsor Locks Paper Corporation has purchased the local plant and equipment of the Groveton Paper Mill as of April 1st, and will continue for the time being the manufacture of toilet paper.

Associates Congratulate Frank Juckett

HUDSON FALLS, N. Y.—Frank A. Juckett, president of The Sandy Hill Iron & Brass Works, who is given to thoughtful felicitation of fellow workers on birthdays, anniversaries and other occasions, and who prefers to remain in the background when his personal anniversaries are concerned, was genuinely surprised when he arrived at his office April 1. Associates had remembered that this was the tenth anniversary of his taking over the reins at Sandy Hill. First a huge basket of flowers greeted Mr. Juckett. An accompanying card read: "Your fellow coworkers at Sandy Hill."

Then all through the day a line of visitors from the shop, the foundry and the offices came to shake hands and to offer Mr. Juckett congratulations.

Since Mr. Juckett arrived, there has been a marked growth in the Sandy Hill plant and organization. He brought with him a rich background of pulp and paper mill experience gained with Strathmore Paper company at West Springfield, Mass., and the Old Colony Envelope company of the same city. His association with the former covered a ten-year period. The Sandy Hill Iron and Brass Works employe roll expanded from 85 in 1936 to 700 with three shifts during a winch-building program during the war.

Vote Set on Gaylord Stock Split

Stockholders of the Gaylord Container Corporation will vote at their annual meeting on May 8 on a proposal to split the common stock on a three-for-one basis, increasing authorized stock from 975,000 to 2,925,000 shares, and reducing the par value from $5 to $1.66 2/3 per share.

Each share of preferred stock, now convertible into two common shares, would be convertible after the split-up into six new common shares, but the preferred stock will retain its present voting power of one vote a share.

Hummel-Ross Profits Up

HOPEWELL, Va.—The Hummel-Ross Fibre corporation reports net sales of $1,827,870 for the first three 4-week periods of 1946, an increase of $537,155 over the $1,290,714 for the same period in 1945.

Net profits were $162,881, equal to 39 cents per common share for the 1946 period. Net profits for the 1945 period were $114,355, however, a deduction of $22,871 for post-war adjustments brought 1945 dividends down to 21 cents per common share.

Julson Heads B-F-D Division

PLATTSBURG, N. Y.—Recent changes in the B-F-D Company, Pulp and Paper Division, moved J. O. Julson to be general manager of the division, Dr. James E. Foote to be assistant general manager, Walter E. Riley, chief engineer; Dr. Raymond E. Baker, technical director, P. D. Bradley, superintendent of operations of the Plattsburg mill, and D. A. Hunter as superintendent of operations at Ogdensburg.

Killfoile Joins Alloy Steel Products

LINDEN, N. J.—Daniel J. Killfoile, recently released from the signal corps in which he served for three years, is now on the sales staff of Alloy Steel Products Co. Previous to entering military service, Killfoile was a purchasing engineer for Chemical Construction Co.

Casein Causes Concern

WASHINGTON, D. C.—Indications that some industries might be forced to close down for lack of casein is reported by the Department of Commerce. Pointing out that domestic production has been very small, and supplies acutely short, the Department said the interested trades have been pressing OPA hard for higher ceilings in order to increase supplies. Because of the price handicap, it is recalled, the Argentine has continued to default on commitments made earlier in the year to ship casein to this country.

All markets are reported intensely firm at OPA ceiling prices. Both Chicago and San Francisco reported active bidding for unground casein at 21 cents per pound, f.o.b. plants, with only negligible amounts available. New York dealers reported sales of domestic acid ground casein at 24 cents per pound.

Rutledge Joins Cupples Firm

KALAMAZOO—Robert E. Rutledge, formerly president of the Sutherland Paper Company, has rejoined the Cupples Company of St. Louis, with which he was affiliated two decades ago. Rutledge resigned from his post at Sutherland Dec. 31, 1945. He had been president of the company since 1942. Active community affairs, he served two terms as president of the Chamber of Commerce.

Rutledge started in the paper business with the Cupples company in 1919, and in 1927 came to Michigan, where he was first with the MacSim-Bar Paper Company before going with the Sutherland Paper company.

Gardner-Richardson Buys in Stock

Purchase of Gardner-Richardson Company stock which had been held by the Richardson Company, Lockland, was financed by an issue of $2,500,000 debenture bonds, E. T. Gardner, Middletown, Ohio, President of Gardner-Richardson, explained last week. He said the company bought in its shares for retirement and financed the purchase through the debenture issue. The transaction will have no effect on personnel or operations of The Gardner-Richardson Co., he explained. The company has its headquarters at Middletown. Two mills and a folding box plant are at Middletown, and a board mill and box units at Lockland.

Syracuse Entertains Foreign Visitors

SYRACUSE, N. Y.—K. Olle Haeger, managing director of Lilla Edets Paper Mill, Lilla Edets, Sweden, was a recent visitor at the New York State College of Forestry here. He is visiting the United States and Canada and will travel to South America in connection with the problems of manufacturing and marketing of pulp and paper.

Another recent visitor at the College of Forestry was Dr. C. Syrach Larsen, director of the Royal Danish Forest Arboretum, who spoke to the forestry students on "Forest Tree Breeding."

Webster Heads Brunswick Rotary

BRUNSWICK, Ga. — William T. Webster, plant manager of the Brunswick Pulp & Paper Company, will head the Brunswick Rotary Club during the coming year. He has been an active member of the club for the past six years.

Saw Men's School Produces Operators

VANCOUVER, B. C.—Since the power saw operators' school was launched at Nanaimo, British Columbia, last September, it has graduated 75 fully qualified men who are working at logging camps throughout British Columbia. The power saw school is regarded as one of the most productive of the vocational training courses which have been organized for veterans in British Columbia.

The school was sponsored by the Truck Loggers' Association of British Columbia, in conjunction with the B. C. Loggers' Association, and the Federal and Provincial governments. Each school has 20 veterans and operates for eight weeks. As the training requires the highest physical standard, only veterans who can measure up to it are accepted.

The course is divided into three parts, the first portion consisting of lectures in the maintenance and overhaul of the two-cycle gasoline engine which powers the saw, sharpening and setting of the saw itself, first-aid and safety measures.

The students are then taken to the proving ground, where they learn to fall trees under instruction. The last three weeks of the course are spent in the bush, working on the job although still under supervision.

Quaker City Trade Fills Up on Shad

PHILADELPHIA—More than seventy-five members of the Philadelphia Paper and Cordage Association, including mill representatives, attended the annual shad dinner of the association at Beck's On the Boulevard, last Friday evening. This annual shad dinner is outstanding in the social activities of the association and is one where the men all become boys for the evening and good old harmony singing is indulged in by the members. W. B. Kilhour, president of Quaker City Paper Company, and president of the association was loud in his praises of the work done by the committee in charge, namely Randolph Decker, Dill & Collins; Albert Snowden, D. L. Ward company; Robbie Robinson, Whiting-Patterson company; and Charles Stokes, Sabin-Robbins Paper Company. Charlie Stokes and Howard Lee of Quaker City led the singing, accompanied by an accordionist.

Carter, Rice Opens in Providence

BOSTON, Mass.—Carter, Rice and Company, Corporation, opened on April 1, 1946, a Providence, R. I., sales office and warehouse at 119 Harris avenue. For more than fifty years this company has been supplying its Rhode Island customers from Boston. James T. McGowan, long associated with this company, will continue as local manager, assisted by Milton H. Broome, in charge of industrial papers and cordage, and Eugene A. Eddy.

H & D of Canada Maintains Output

TORONTO, Ont. — Hinde and Dauch Paper Co. of Canada, despite the critical shortages of raw materials, has been able to keep its production well up to that of last year, L. F. Winchell, vice-president and general manager, reports in his quarterly letter. The supply situation has in some respects grown worse he states.

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FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending April 6, 1946

STOCKS

	High	Low	Last
A. P. W.	9¼	8¾	9
Armstrong Cork Co.	60½	59	60½
Celotex Corp.	29½	28	29⅜
Celotex Corp., pf.	21½	21⅛	21½
Certain-Teed Products Corp.	19¾	18¾	19⅝
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	57¼	49½	55½
Champion Paper & Fibre Co., pf.	111½	111	111½
Congoleum Nairn Co.	36¾	35	36¼
Container Corp. of America	52	46¼	51
Continental-Diamond Fibre Co.	16⅛	15	15¾
Crown-Zellerbach Co.	38½	34½	38½
Crown-Zellerbach Co., pf.	108	107½	108
Dixie Cup Co.	50½	47	50
Dixie Cup Co.—A	57½	53⅜	57½
Flintkote Co.	41½	40⅜	40⅞
Flintkote Co., pf.	....	....	....
Robert Gair	11	10¼	10⅝
Robert Gair, pf.	21	20⅞	20⅞
International Paper Co.	50	44¼	49⅜
International Paper Co., pf.	125½	114¾	123
Johns-Manville Corp.	162⅝	154½	162⅝
Johns-Manville Corp., pf.	147½	141	147½
Kimberly-Clark Corp.	63½	61¼	63½
Mac Andrews & Forbes	38	37¾	37¾
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	63	61¼	62⅜
Mead Corp.	26⅜	25	26
Mead Corp., pf. A—6%	106½	106½	106½
Mead Corp., pf. B—5½%	....	....	....
National Container Corp.	31¼	29¾	31
Paraffine Companies, Inc.	80	79	80
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	26⅝	24¼	26⅝
Rayonier, Inc., pf.	38½	38⅛	38⅛
Ruberoid Co.	49¼	48¾	49¼
Scott Paper Co.	56⅞	53½	56⅞
Scott Paper Co., pf.	108	106⅝	107⅝
Sutherland Paper Co.	48½	46¼	47
Union Bag & Paper Corp.	32½	30	32½
United Paperboard Co.	12	11¼	11⅜
U. S. Gypsum Co.	123	118½	122½
U. S. Gypsum Co., pf.	....	....	....
West Virginia Pulp & Paper Co.	46¾	44⅝	46¾
West Virginia Pulp & Paper Co., pf.	....	....	....

BONDS

Abitibi Pulp & Paper Co. 5s '53	109	109	109
Celotex Corp. 3¾s '55	....	....	....
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	106	105¾	106
International Paper Co. 5s '47	102	102	102
Mead Corp. 3½s '53	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending April 6, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	43¾	41¾	43¾
Hummel-Ross Fibre Corp.	14⅜	13¼	14⅜
St. Regis Paper Co.	11⅞	11	11⅝
St. Regis Paper Co., pf.	....	....	....
Taggart Corp.	10	9	10

BONDS

American Writing Paper Co. 6s '61	103½	103	103½

International Plans for New Preferred

The proxy statement for the International Paper Company annual meeting in New York on May 8, 1946, mailed April 5, contains a proposal that shareholders authorize the Board of Directors at their discretion to issue 400,000 shares of a new class of preferred stock, with or without a limited amount of common, in exchange for an equal amount of present preferred stock. Preferred stockholders now have the option to convert each 5% preferred share into 2½ shares of common. Approval of the proposal would put directors in a position, if conditions warrant, to give present preferred stockholders a second option.

John H. Hinman, president of the company, made the following comments on the proposal:

"The Company has already begun a program to retire all the existing 5% preferred shares by calling 100,000 shares for redemption April 4, 1946. Holders of well over 90% of the called shares have exercised their option to convert into common stock. The directors feel that preferred shareholders might be glad to have a further option, namely, to exchange their present preferred stock for shares of a new preferred issue. Approval of the proposal contained in the proxy statement does not limit the right of the preferred stockholders either to convert into common or to accept the call price of $105 in money if and when his shares are called. The proposal, however, puts the Board of Directors of the Company in a position to offer the preferred stockholders a further option."

Mr. Hinman said that the exact terms of the exchange offer could not be stated at this time, as they will have to be based on conditions existing at the time the offer is made and the offer can not be made until after the stockholders have authorized the new preferred stock. He pointed out, however, that the proposal to be voted upon by the stockholders contemplated offering the new preferred share for share in exchange for old preferred, and specified that the dividend on the new preferred may not exceed $4.50 a share; that it will not be redeemable prior to July 1, 1949; that the initial redemption price may not be more than $120 nor less than $105 a share; and that if any common stock is to be included in the exchange offer the amount may not exceed one-quarter of a share of common for each share of preferred.

According to the proxy statement, the exact date of any exchange offer the Company may be able to make cannot now be determined but it is expected that it will be made soon after the necessary authority is obtained at the annual meeting. However, Mr. Hinman pointed out that conditions might make it impracticable to make any exchange offer and that the directors therefore reserved the right to postpone or abandon the offer.

All present directors of the Company have been nominated for re-election to the Board of Directors. Winthrop W. Aldrich, Chairman of the Board of Directors of The Chase National Bank and a director of the Company in 1943 and 1944, has also been nominated. The Board, formerly sixteen, has been increased to seventeen, effective as of the date of the stockholders' meeting.

Price Brothers Net Rises

MONTREAL, Que. — A moderate increase in operating profits and a sharp gain in net are reported by Price Brothers & Co. Limited, in the annual report for 1945. Operating profits in 1945 were $6,579,929 as compared with $6,376,691 in 1944. After providing funded debt interest depreciation and depletion of $1,845,000 as against $1,720,000 and taxes of $2,280,000 against $2,445,000, exclusive of the refundable portion, net profit amounted to $2,154,387 as compared with $1,418,335.

Above net, including the refundable portion of the excess profits tax, was equal to $3.37 per share, against $2.02 in 1944. Refundable portion was equal to 55 cents in 1945, against 63 cents in 1944. In 1944 a provision of $500,000 in respect of employe pensions was deducted before arriving at the net profit; in 1945, an amount of $2,279,306 was transferred in this respect out of earned surplus. Also transferred from earned surplus was $750,000 to contingency reserve.

Dividends at the rate of $1.50 per share were paid in 1945, same as in the previous year, requiring an amount of $821,785.

Courtesy The Black Clawson Co.

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Uniform economy because the felts themselves are uniform in weave, strength, toughness, smoothness, high porosity, resistance to stretch and shrinkage . . . Qualities you can depend on consistently when you specify RICHLAND TRIPLEX all-cotton dryer felts.

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Linweave Group Launches New Lines

At the annual meeting of Linweave Merchants held at the Waldorf-Astoria, New York City, on March 30 the latest Linweave packaging developments, new and improved items and current advertising plans were announced by Manager T. H. Chambers. An outline of general conditions was presented by Mr. E. V. Johnson, President, United States Envelope Co.

The merchants at their morning meeting named the following committees:

Advisory Committee: W. T. Black Chairman, Allan & Gray, New York; C. H. Christiansen, Secretary, Millcraft Paper Co., Cleveland; W. N. Stetson, Jr., Storrs & Bement Co., Boston; D. G. Bottom, B. W. Wilson Paper Co., Richmond; E. H. Kneip, Shaughnessy-Kneip-Hawe Paper Co., St. Louis; V. E. Hecht, Zellerbach Paper Co., San Francisco.

Merchandising Committee: J. D. Bligh, Chairman, Barton Duer & Koch, Washington; H. K. Weed, Secretary, Alling & Cory Co., New York; J. J. Lukaska, Swigart Paper Co., Chicago; L. L. Ferry, Sloan Paper Co., Atlanta; E. L. Walters, Western Newspaper Union, Omaha.

Linweave merchandising steps out in the postwar market with "Glamour-Pac," a deluxe wedding stationery package. When the stationery is used, the bride may reuse the rigid transparent container as a handkerchief or stocking box.

New social stationery items—"Elite" size wedding announcement and "Formal" size birth announcement—were shown. The Brentwood and Drexel grades are to have new packaging with a distinctive new label design and new style wrappers, plus engraved box tops. Commercial announcements are to appear henceforth in a striking two-color allover printed box cover paper and under attractive new labels. A new 100 putup has been added to the Informal lines.

Utilizing suggestions made by the Linweave Merchandising Committee, improvement in colors of Linweave Text and Linweave Town Crier Text were announced, as were plans for a new comprehensive swatch book. Advertising plans, including the new Linweave Wedding Display and magazine advertising featuring this Display, were outlined by E. L. Wight, sales manager in charge of sales promotion, United States Envelope Co.

The meeting concluded with a dinner and program of entertainment at Toots Shor's Restaurant.

Pacific Mills Starts Beaver Cove

VANCOUVER, B. C.—Pacific Mills, Limited, has started logging operations at Beaver Cove at the northeastern section of Vancouver Island, according to a statement by Paul E. Cooper, President. There is approximately one billion feet of pulp logs available at Beaver Cove, which will be a truck operation. The logs will be Davis rafted to the Ocean Falls pulp and paper mill. At present there are forty men at the Beaver Cove camp. This number will be increased to sixty when the camp reaches full production.

The first logs will go into the water about May 1st. The company expects to take out ten to twelve million feet of logs this year. Mr. Cooper pointed out the Beaver Cove operations will be maintained on a sustained yield basis.

George Kennedy is Comp Superintendent, and J. Sandison is engineer in charge.

Drycor Buys New City Mill

STAFFORD SPRINGS, Conn.—The Drycor Felt Company, Inc., of Belleville, N. J., has bought the old New City Mill property at Staffordville, from Mr. and Mrs. Robert Chism, and will establish a plant to manufacture felts, used on paper-making machinery.

The property includes a three-story brick building and approximately 20 acres of land. The mill is one of the oldest in Stafford and was built more than a half century ago.

Originally built for the weaving of woolen textiles, it was operated by the Rawister Brothers and later by the Fabyan Woolen Company.

In recent years the building has been unoccupied. For a time Herbert West conducted a hand loom weaving business there and a mill and wood-working plant was operated on one of the floors.

Operations are not expected to be carried on at the mill by the new company until late this year or early in 1947. Percival T. Gates is executive vice-president and trasurer of the company and other officers are: Henry G. Specht, president; Harlan W. Clifton, vice-president; John G. Mckenie, secretary.

Pennsalt Traffic Manager Retires

PHILADELPHIA—H. L. Crowder, traffic manager of the Pennsylvania Salt Manufacturing Company since January 1, 1918, announced his retirement recently after almost 30 years service with the company. J. G. Robison, assistant to Mr. Crowder for many years has been appointed Pennsalt's new traffic manager. William J. Robb has been named assistant traffic manager.

Mr. Crowder, who is a member of the Traffic Club of Philadelphia and the Traffic Club of New York, has lived all of his life in Philadelphia, where he was born on Oct. 5, 1885. Mr. Robison is a native of Coatesville, Pa. He joined Pennsalt nine years ago.

Halsey Joins Brown Organization

Brown Company has appointed William F. Halsey III to the staff of the New Products and Market Analysis Division. A graduate of Princeton, 1938, Mr. Halsey was commissioned Ensign USN in March 1942. During thirty-three months in the Pacific he served as Aviation Supply Officer aboard the USS Saratoga and as Logistics Planning Officer on the Staff of the Commander of Naval Aircraft in the Pacific, seeing action at Guadalcanal, Bougainville, Rabaul, and in the Marshall and Gilbert Islands. Released from service in February of this year with the rank of Lieutenant, he was promoted to Lt. Commander on April 1st. Mr. Halsey will be located at the company's New York Sales Office, 500 Fifth Avenue.

Mead Earnings Up

Mead Corp., paper products manufacturers, earned net profit in 1945 of $1,190,646, equal after preferred dividends to $1.06 a common share, compared with $1,137,831, or 98 cents on common, in 1944.

The annual report stated about $9,500,000 capital expenditures for expansion of existing facilities during the next 5 years had been authorized. The management is now engaged in preliminary discussions with financial houses regarding procurement of the funds, which may include substantial revisions in the capital structure.

A recent order from a Prominent Pulp and Paper Manufacturer

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British Columbia to Increase Forest Protection

VANCOUVER, B. C. — With assistance from the Dominion government, British Columbia hopes to increase forest protection expenditures up to the $2,500,000 recommended by the Sloan report. Protection this year will reach $1,250,000, as compared with a previous all-time high of $650,000. This is announced by Hon. E. T. Kenney, minister of lands and forests. But a little later he told the House the government was withdrawing its $50,000 contribution for forest research from estimates in view of the failure of the Dominion government to offer its share of a three-party scheme and the withdrawal by industry of its offer.

In the main, Mr. Kenney's amendments to the Forest Act will not touch the main recommendations of the Sloan report.

The far-reaching scheme suggested by the royal commissioner for maintenance of sustained yield will be studied, but no legislation will be introduced to implement them until next session—if then.

The recommendation that the B. C. coast timber cut be restricted to 3.5 billion feet a year for the next ten years, for instance, and the eight further recommendations in line with it aimed at sustaining and protecting the yield of timber, would be studied.

But legislation to implement them was too important to attempt now.

The government definitely refused to consider establishment of a forest commission.

He opposed a commission principally on the grounds that it allowed no appeal from its decisions and was particularly dangerous to small operators who could not afford court action.

However, there were points on which the government was prepared to act immediately. They were:

1. Introduction of the cubic scale and a measure whereby royalties on "waste" logs could be reduced by 75 per cent. Stumpage rates for such logs are already discretionary.
2. Forest districts will be reduced in size as soon as men are available.
3. Dominion assistance in forest protection will be vigorously pressed.
4. Forest protection tax will be levied on privately-owned logged lands.
5. Operators will not burn slash unless ordered by the forest service.
6. Private logging roads will come under the forest service for closure in the event of fire danger.
7. Planes will be used in forest protection and the forest service may build up its own air fleet.
8. Denuded areas on the coast will be planted at the rate of 20,000 acres a year.
9. Royalties will be reduced as much as 75 per cent on defective timber.
10. Cubic scale will be legalized, but will not supplant the board foot scale in the B. C. log scale. Cubic scale will be used for pulp measurements.

The province will go to the courts, on the recommendation of the Sloan report, to discover its rights in levying a forest protection tax on E. & N. Railway lands on Vancouver Island.

The question of the right of the government to impose a severance tax on timber cut from these same railway lands will also be decided by litigation.

Parks reserved under the Land Act will be administered by the forest service in future, but no legislation is required.

There was one point in the Sloan report, he went on, which required no further action. That was in the prohibition of logging of minor old growth in valuable young stands of timber. This was never tolerated on crown lands and never would be, he assured the House.

There were matters, too, in which the Dominion government had the last word, such as the export of raw logs. This would have unqualified support from all interests except owners of crown-granted lands. But control of exports was vested in Ottawa, he said.

Poland Spring Booked Full

The Poland Spring management has just announced that their several hotels are booked to capacity for the Superintendents Convention, June 17th to 20th, inclusive. Requests for reservations are now being put on a reserve list and, in case of cancellations, assignments will be made in the order of their application. No rooms have been assigned as yet. A committee made up of representatives of the Association and the affiliates will make definite room assignments early in May following which confirmation cards will be sent to each person for whom a room is being held.

Powell River Explains Its Operations

VANCOUVER, B. C. — Adopting a policy unique in the operations of company towns, residents in the town of Powell River were recently taken into the confidence of the management of the Powell River Company, and a complete picture of the operations of the company presented by leading executives. Harold S. Foley, president of the company, presided at a forum at which George O'Brien, Robin Bell-Irving, William Barclay and Bruce Cancell, vice-president of the company, presented reports covering the logging, engineering and sales activities of the Company.

Studies conducted during the past year by the sales and foreign market departments of the Powell River Company show little reason to fear a return of conditions once caused in the pulp and paper town by the competitive activity of European companies in the newsprint market. Officials of the company believe that Finland, Swedan and Norway are not likely to increase newsprint in prewar quantities for many years, due to the irreparable war damage to the forests in these lands. In addition, it is pointed out that a growing demand for newsprint has developed in other markets.

George O'Brien, head of the logging division of the Powell River Company, states that if the Powell River mills undertook no reforestation work and engaged in no replacement of its present timber supplies through new purchases and carried out no saving in the use of timber by adoption of new methods, it would still have sufficient storage supplies to keep the big pulp and paper mill operating for 25 years. Mr. O'Brien pointed out, however, that the policy of the company is to conserve timber by complete utilization of waste wood and through such savings as well as through reforestation activities it is believed the Powell River mills will have a perpetual supply of raw material.

The Powell River plant now provides employment for 7,000 persons who are directly dependent upon it.

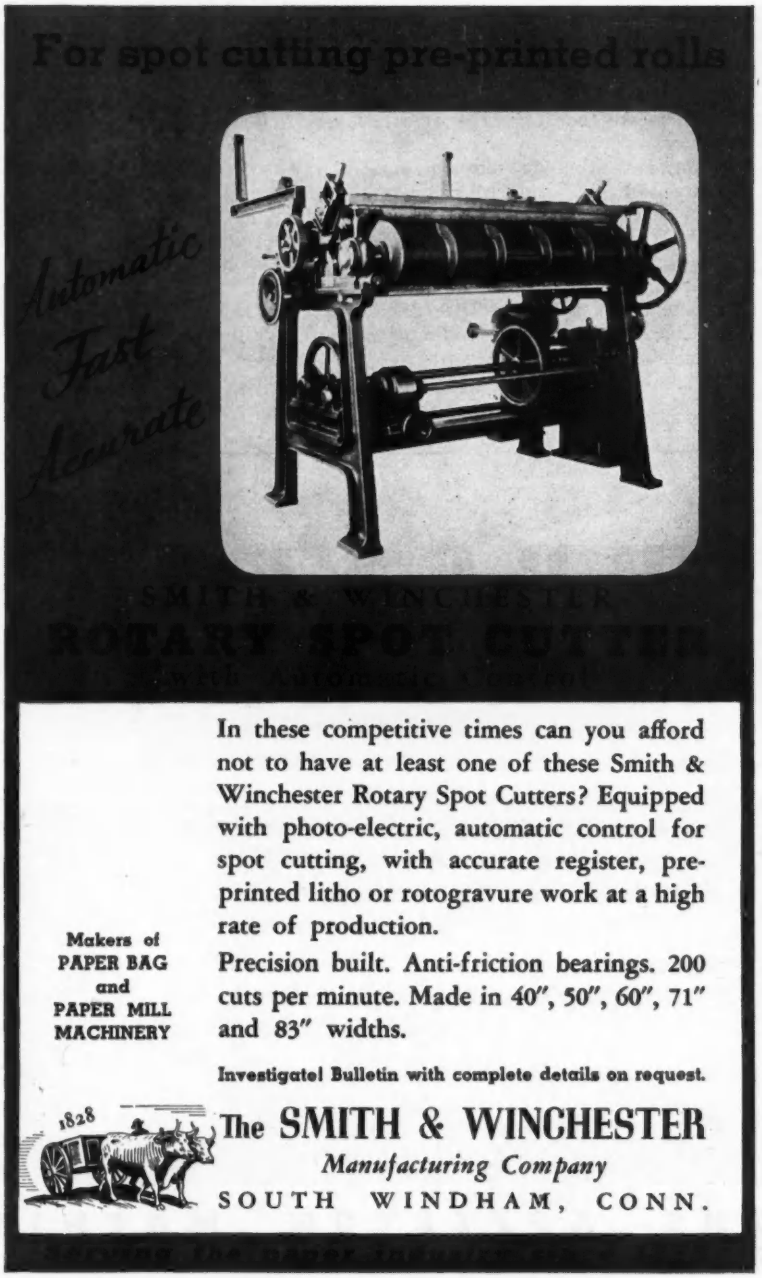
In 1945 the Powell River Company spent $262,978 on welfare relations work, and in the opinion of Harold S. Foley, president of the company, it was the best spent money of any expended by the company. This amount comprised $130,000 paid to the employees' pension plan, $24,000 to the Sick Benefit Society, $15,856 on the cafeteria subsidy, $12,000 on group life insurance, $8,095 to the 25-Year Club, $4,800 on rehabilitation of veterans, $45,000 to churches, sports, library, etc.

Totaled, it amounted to $1.32 per ton of paper produced in the mill here, and represents the "largest expenditure of any pulp and paper company in a single year."

In plant development, 1945 saw the expenditure of $3,368,726 in the district.

William Barclay, sales manager for the Powell River mills, states that by maintaining quality and keeping faith with its customers, Powell River Company's products are now favorably known, and he states that to meet the present demands of 223,000 tons, the Powell River Company will have to produce every possible ton of paper.

(Continued on page 34)



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In these competitive times can you afford not to have at least one of these Smith & Winchester Rotary Spot Cutters? Equipped with photo-electric, automatic control for spot cutting, with accurate register, preprinted litho or rotogravure work at a high rate of production.

Precision built. Anti-friction bearings. 200 cuts per minute. Made in 40", 50", 60", 71" and 83" widths.

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Victory Pulpwood Drive Wins Award

WASHINGTON, D. C.—The U. S. Pulpwood Council and the public relations firm of Frank Block and Associates were honored jointly Saturday, March 30, at the annual Awards Banquet of the American Public Relations Association, held in the Hotel Statler, Washington, D. C., "for outstanding public relations performance." The Association's award, a silver anvil, representing the anvil of public opinion, was presented to the Council and to the Block organization for its meritorious work in the field of agriculture," in recognition of the Pulpwood Industry's 1945 Victory Pulpwood Compaign.

The Council which is headed by James L. Madden, president of Hollingsworth and Whitney, as chairman, conducted the victory Pulpwood Campaign as a wartime program until V-J Day, and thereafter as a peacetime program in behalf of the industry. It had as its objectives: To induce the farmers of the nation to cut pulpwood on their own woodlots; To keep workers in the pulpwood industry—in the woods and in mills—on the job; To recruit woods and mill workers in order to overcome critical manpower shortages within the industry, and To constantly point out the importance of the pulp and paper industry to the communities, counties and states in which the industry operates, as well as the importance of pulp and paper products, industry payrolls and taxes to the everyday life of the nation. The pulp and paper industry was represented at the affair by Mr. Charles J. Dynes of Hollingsworth and Whitney and presently in Washington as special assistant to the Administrator, Civilian Production Administration.

Other members of the Council's executive committee are: William J. Bailey, vice-president, West Virginia Pulp and Paper Company; H. S. Daniels, vice-president, Union Bag and Paper Corp.; John H. Hinman, president, International Paper Company; Amor Hollingsworth, president, Penobscot Chemical Fibre Company; R. W. Hovey, vice-president, Oxford Paper Company; H. M. Kieckhefer, secretary-treasurer, North Carolina Pulp Company; Peter S. Paine, president, New York and Pennsylvania Company; Cola G. Parker, president, Kimberly-Clark Corp., and Vertrees Young, executive vice-president, Gaylor Container Corp.; H. E. Brinckerhoff is executive secretary and treasurer of the Council.

Santa Rosa Buys War Plant

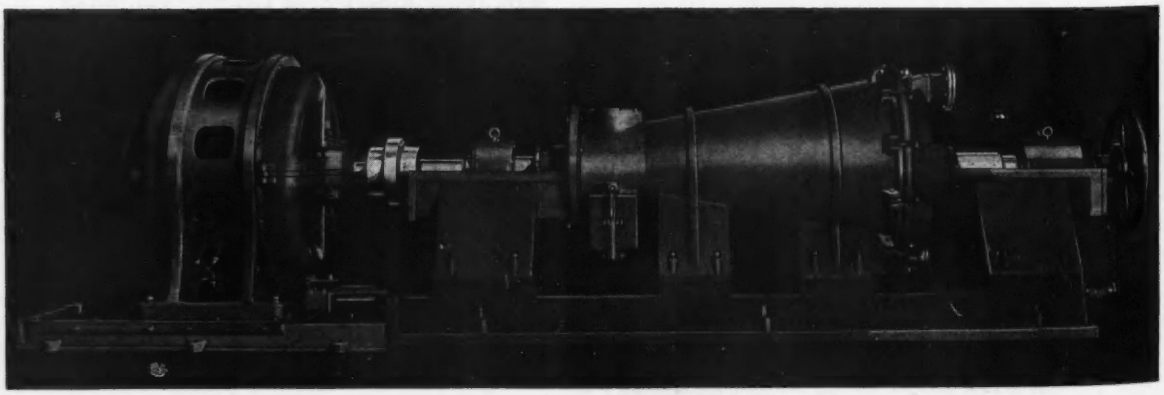
WASHINGTON, D. C.—Santa Rosa Pulp and Paper Company will purchase the Cantonment, Fla., craft board products plant it operated during the war, according to the War Assets Administration. The sale will be made subject to compliance with the provisions of the Surplus Property Act and the applicable regulations thereunder. Land, buildings and machinery are being acquired by the Santa Rosa company for $346,342, the appraised value of the property, and will be used in the manufacture of pulp and paper, employing between 250 and 300 workers.

Occupying slightly less than an acre of ground, the plant consists of six buildings, the largest of which is the paper machine structure containing approximately 37,171 square feet of space.

The property has all utility services, including artesian well water on the site, and a combination Louisville and Nashville and Frisco Railroad spur track.

APPLETON JORDANS

. . . The modern Appleton Jordan is engineered for today's high-speed paper production. Even under severe service conditions original efficiencies are maintained, guaranteeing uniform, accurate stock refinement at all times. There is an Appleton Jordan for all grades of stock with fillings to fit the job.



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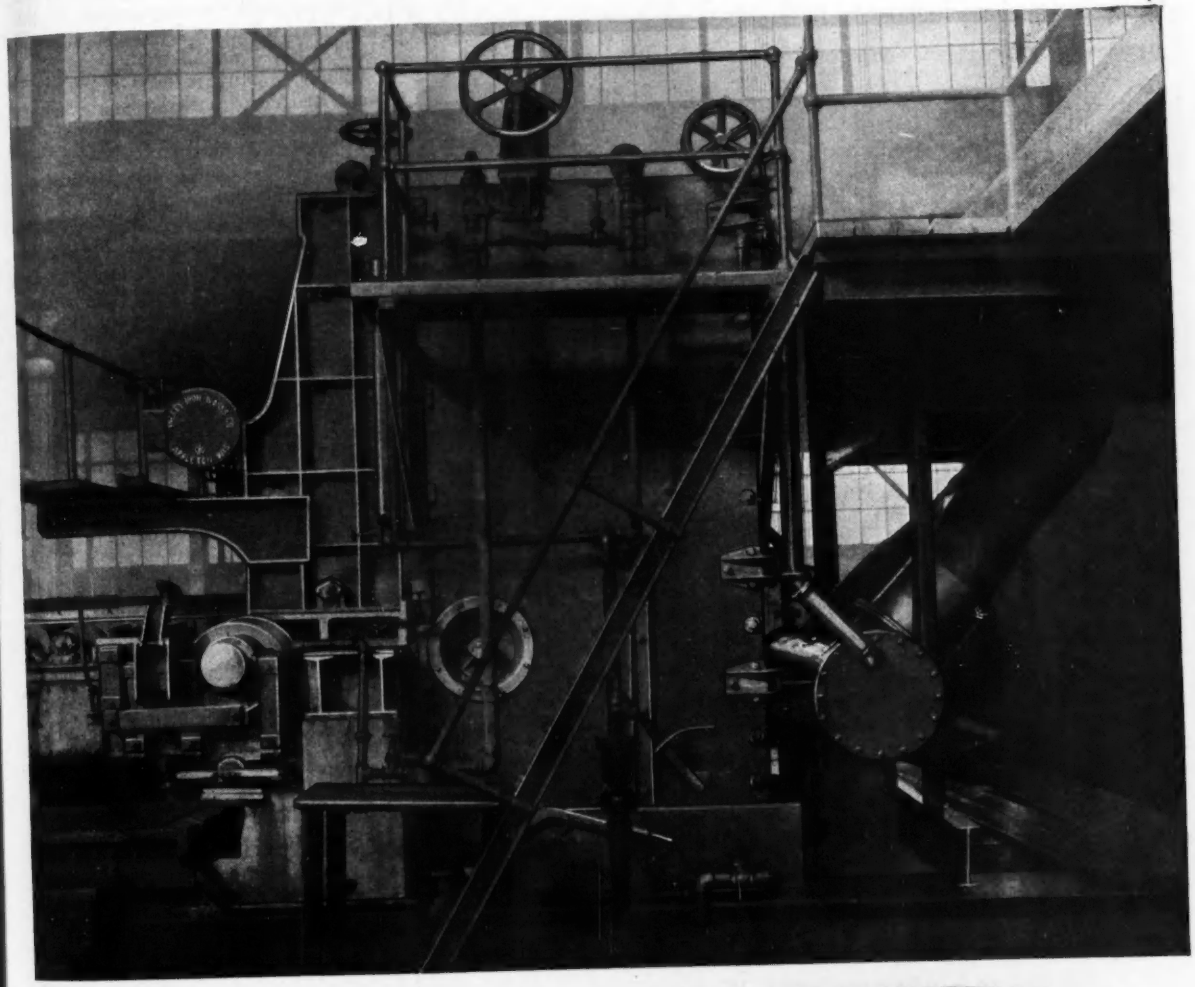

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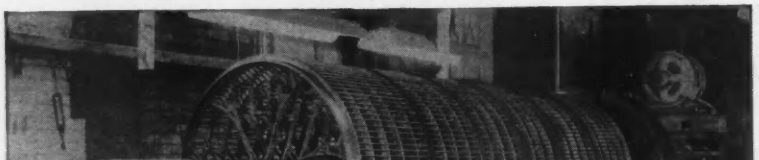

More Precision Machinery

Huge motor-driven lathes, such as the one above, capable of handling the largest cylinder moulds . . . borers . . . radial drills . . . millers—these are just some of the modern precision equipment that Cheney Bigelow has added during the past several years to serve you better and faster.

Not only have we acquired new equipment, but more factory space as well. This additional space insures freedom of action for our workmen, thereby speeding operations.

New equipment and more space are but two phases of our new program to be of greater service to the paper industry. We have also added top-flight personnel to our engineering staff—men with a thorough understanding of the industry and its problems. Through their efforts, we have been able to make great progress in our design and experimental work, progress which has enabled us to reach the point where we will soon be able to announce new products of unusual interest to you.

Our one aim is to be more helpful. We are prepared to serve you promptly and efficiently.

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POWELL RIVER EXPANDS

(Continued from page 31)

Robin Bell-Irving states that the Lois River power development of the company will be augmented in the immediate future by an additional 18,000 KVA installation.

The company is now installing a new hydraulic barking plant, which is hoped will be ready for operation by July. A kraft plant, a new steam plant, relocation of the laminating department, and installation of new ground refiners are other projects of the company, which Mr. Bell-Irving states are being launched by the company in the immediate future.

During the war years several shutdowns were caused at the plant by temporary log shortages, and with a view to eliminating this in future, log storage capacity has been increased to the point where the company is now in the satisfactory position of continuing manufacture although log shipments from the woods might be delayed over a long period.

Company officials estimate that two and a half million dollars will be spent this year on development at Powell River.

This is but one year's step in the total post-war development program of the Powell River Company, which is estimated to involve expenditure of $12,000,000.

Container Earns $900,000

At the annual meeting of stockholders of Container Corporation of America, all of the directors were re-elected. Walter P. Paepcke, President, announced that the estimated earnings of the company for the first quarter were approximately $900,000, which amounts to about $1.20 per share.

Mr. Paepcke reported at this meeting that over 90% of the common stock of California Container Corporation had been deposited for exchange for shares of Container stock. At the directors' meeting following the stockholders' meeting a dividend of 40c per share was declared, payable May 20 to stockholders of record on May 4.

Frick Joins Carbide

PITTSBURGH, Pa. — George W. Frick has been appointed executive vice-president of the Carbide Die and Mold Company. Mr. Frick will also direct the company's sales. The firm manufactures precision sintered carbide dies and molds, wear parts, and special tools for the powdered metals, ceramics, and pharmaceutical tablet manufacturing fields.

Now it's fly swatters made from Geon ...

. . . What will they think of next?

AN enterprising mid-Westerner had heard about GEON raw materials and the many things that could be made from them. So, he asked himself, why not fly swatters? Products made from GEON, he knew, resist oils and chemicals, sunlight, aging, repeated impact, abrasion, and many other normally destructive factors. They keep their shape indefinitely. They can be brilliantly or delicately colored. They can be waterproof and, so, easily washed. And GEON can be compression molded or injection molded, extruded, calendered or cast into sheet and film.

Samples were made and tested. The initial order was for 300,000 swatters, called Odor-Swat, the King of Swats, made from GEON. These swatters are going to make a good many impressions—on unsuspecting flies—this summer and for years to come.

It may seem a far cry from fly swatters to delicate film for the packaging field—or from dainty make-up capes to linings for acid tanks—from car upholstery material to insulation for wire and cable. But that's the way GEON is; versatile, easy to process, with applications—established and potential—*in literally every field.*

For more information about GEON raw materials and what can be done with them please write Department M-4, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Geon
Polyvinyl Materials

Here are a few applications for GEON suggested by the unusual properties of the fly swatter

Textile coatings for rainwear, awnings, industrial aprons.
Calendered, embossed sheet for upholstery and luggage.
Calendered or molded sheet for flooring, shoe soles, shower mats.
Paper coatings or film for packaging, wall covering.
Extruded wire and cable insulation.

Photo courtesy The Odor-Swat Co., Brecksville, Ohio

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OBITUARY

Jean Rolland

MONTREAL, Que.—Jean Rolland, president of the Rolland Paper Company Limited, and one of the most notable figures in the paper trade in Montreal, died on Thursday last in Montreal, in his 68th year. Born and educated in Montreal, he joined the Rolland Paper Company in 1898, six years after the company had been founded by the Rolland family. Four years later he became manager of the company's mills at Mont Rolland, Que., and from 1918 to 1928 was general manager of the mills at St. Jerome, Que. In 1928 he became president of the company.

He was active in the Canadian Pulp and Paper Association, and held directorships in a number of financial institutions in Montreal, as well as being prominent in local Board of Trade and Chamber of Commerce circles. While at Mont Rolland, he served for a period as mayor of the town as well as on the local school commission, of which for five years he was the chairman.

He was twice married: in 1904 to the late Juliette Barsalou, and in November, 1944, to Jeannette Lemieux, who survives him, as well as the following sons and daughters, born of the first marriage: Jean-Paul, Romeo, Jacques, Marc, Andre and Guy; Mrs. Albert Normandin and Mrs. Gerard Garon. There are 10 grandchildren. Other survivors are one sister, Mrs. Thibaudeau Rinfret, of Ottawa, and three brothers, Henri, of Montreal, and Olivier and Achille, of Mont Rolland, Que.

Thomas Stott

Thomas Stott, 60, manager of Barber-Ellis Calgary Limited, died in hospital in Calgary, Alberta, recently.

Mr. Stott was born in Liverpool, England. He came to Vancouver in 1908 where he was associated with Barber-Ellis of Vancouver Limited for many years. Transferring to Calgary in 1928 as maanger of the Calgary branch of the company, Mr. Stott had lived in that city since.

He was a member of Zetland Lodge, A.F. and A.M., and was an associate member of the Glencoe Club where he was a prominent lawn bowler. Mr. Stott also belonged to the Calgary Rotary Club and was president of the local branch of the S.P.C.A.

John J. Dooley

HOLYOKE, Mass.—John J. Dooley, 64, former traffic manager at the American Writing Paper Corp., died recently at his home in Springfield. He was a native of North Adams and had been a resident of Springfield for the past 25 years. Prior to his illness he had been traffic manager for the National Carloading Co., of Springfield.

Harriet E. Fowler

HOLYOKE, Mass.—Mrs. Harriet E. Fowler, widow of Timothy H. Fowler, well-known papermaker who died in 1922, succumbed at her home recently after a brief illness.

E. M. Brower

E. M. Brower, president of the Active Paper Company of Chicago, was killed in a street car accident earlier this month. According to local reports Mr. Brower, well known in Chicago paper circles and a member of the Paper and Twine Association, was struck by the street car.

Aerotec Shows New Dust Collector

An integral grinding dust collector recently introduced by the Aerotec Company of White Plains, N. Y., operates with a no-pressure build-up characteristic that assures continuous equal suction at throat of hoods with resulting high collection efficiency. A fan unit of the high static pressure type overcomes resistance of the collector unit and develops 2-inch w.g. or more at throat of a closely coupled hood.

The high efficiency of the Aerotec Integral unit is said to make it applicable to practically all grinding dust collection problems. However, where extremely fine—hazardous but non-explosive—dust is encountered, an electrical secondary, operating from a standard lighting circuit may be added.

The Aerotec Company states that a number of state hygiene and health departments have already accepted this unit and negotiations are under way to obtain complete, nation-wide acceptance. Sales and project engineering are being handled by the Thermix Engineering Co., Greenwich, Conn.

Pyrometer Bulletin Shows Applications

A 12-page Bulletin, No. 194-SA, on portable Surface Pyrometers for use in plant and laboratory has just been issued by Cambridge Instrument Company, Inc., 3702 Grand Central Terminal, New York 17, N. Y. It illustrates and describes the Cambridge roll pyrometer for determining the temperature of calender rolls or other convex surfaces; extension model for checking temperature of dryer rolls and similar surfaces in hard-to-reach locations; mold pyrometer for mold cavities or stationary surfaces of almost any contour; needle model for measuring sub-surface temperature of materials in a plastic or semi-plastic state. Lists of typical applications accompany the descriptions of each model. Among the 33 illustrations are many showing these instruments in use on a wide variety of production operations.

Osborne Will Double Capacity

FULTON, N. Y., March 25, 1946—Osborne Paper Mill Equipment Co., has under construction a modern machine shop of steel and concrete blocks, with 3600 square feet of floor space, which will double their capacity. They have also asked for a permit to construct a storehouse and erecting room, 80 ft. x 250, of steel and concrete construction, made necessary by expansion of postwar work, reconditioning paper machines and auxiliary equipment. Estimated cost, with equipment, over $100,000. Mark Osborne reports sale of machinery for two complete paper mills, also two complete paper machines to date, this year, with prospects for full operation for the next two years, and full employment for approximately 40 men.

U. S. Sugar Completes Starch Plant

CLEWISTON, Fla., March 26, 1946—Completion of a root starch plant for United States Sugar Corp., has been reported by The Rust Engineering Co., Pittsburgh, Pa., which acted as designer and construction supervisor. The starch plant represents a major part of the development program by U. S. Sugar at Clewiston, costing in all $7,000,000. Additional facilities include water supply, sewage disposal and power house.

The plant is scheduled to reach production of 75,000,000 lbs. of starch, and 30,000,000 lbs. of livestock feed from waste, in 1946.

TITANOX . . . *the brightest name in titanium pigments*

For many years, the Paper Industry has been using TITANOX pigments for whitening paper stocks and making them opaque. TITANOX pigments have done an outstanding job because of their qualities of high refractive index, pure white color and unusually high brightness. The fineness and uniformity of TITANOX pigments make for easy dispersion. They have extreme resistance to after-yellowing.

In tinted stocks, TITANOX is used for outstanding clarity and retention of color.

TITANOX pigments are economical, too. A little pigment goes a long way.

The accelerated demand for these top quality pigments has far surpassed the supply. The makers of TITANOX pigments—the largest producers of titanium pigments in the United States—are endeavoring to increase production by keeping their existing plants at full capacity and also by expanding their facilities.

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PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

W. L. Cook, Editor

WHY NO CASEIN

Because it has become a controlling factor in the present unhappy state of affairs in the paper industry, and because a serious shortage threatens to add some portion of its problem on the shoulders of the man who would make more paper, if he could, the question of casein has been studied almost to exhaustion by those who keep their fingers on the trade pulse. As in the case of other familiar materials, there is a present shortage of this material. This country has never produced much more than half of its present requirements. Just now the chief foreign source finds it easily possible to sell at greater profit in markets which are not restricted as to price by an Office of Price Administration. And the whole world is crying for milk and milk products, and thereby reducing the available amount of milk for casein production. These general statements sum up a condition which has been set forth in crisper detail by the Casein Company of America. For their explanatory value to those who want to know more about it, some of the facts are given on this page, as they are presented by that company. The prices quoted are those supplied by the Casein company.

Through control of shipping and International trade during war, the Combined Raw Materials Board virtually allocated the world's supply of casein existing in Argentina to esential war purposes. Thus, allocations were made to the different countries; and within the United States there was strict allocation of casein to essential requirements through the operations of War Production Board. There was no hoarding, no overbuying, and prices were relatively stable. Although, there was insufficient casein for world requirements, it was made to go around for essential needs.

The impact of world demand hit the Argentine market in November and December of last year, and the world price, being uncontrolled, rapidly went up to our OPA ceiling of 24c per lb. f.o.b. shipping point in this country. The situation today in Argentina is that the period of maximum casein production is over, their stocks relatively low, the rest of the world is apparently willing to pay whatever price is necessary to get casein—all of which adds up to the fact that at this date it is impossible to buy casein in Argentina and land it duty paid in a U. S. port at less than 28c-36c-38c per lb., which is 4c per lb. over the permitted sale price. Under these circumstances, the casein importer, dealer and user in the United States can only stand by helplessly and watch other nations buying up the limited amount of casein which exists in the world at prices which it is illegal for him to pay.

In 1945, something less than 14,000,000 lbs. of casein was produced in the United States, which figure should be compared with a U. S. requirement of around 70,000,000 lbs. annually. In this country, it is necessary for the milk product concern contemplating the manufacture of casein, to compete with others who require liquid skim-milk, wherewith to produce edible skim-milk powder, cheese, or other edible dairy products. Today, the manufacturer of skim-milk powder pays from 72c to 85c per 100 lbs. of liquid skim-milk—yet the casein manufacturer can only afford to pay around 40c for that same 100 lbs. of skim-milk, if he is to sell the resulting casein at the ceiling price of 24c per lb. It is obviously necessary for casein to sell for around 35c to 40c per lb., if it is to compete in the liquid skim-milk market. But even then, the matter of policy properly arises in these days of world-wide food shortages. Let it not be overlooked that when 100 lbs. of liquid skim-milk are made into dry skim-milk powder, slightly under 9 lbs. of edible material are secured; where as only 2¾ lbs. of industrial casein are secured, plus whey solids of indefinite value, and these solids are frequently not recovered by processing, but are delivered back for feeding to animals on the farm.

There have been years when we made as much as 45,000,000 lbs. of casein in the United States. How much will be made in 1946 is a matter of conjecture but it hardly seems possible that any more casein can be made in this country, than was produced in 1945.

An over-all picture of the world casein situation shows the approximate annual requirements of casein-using countries, at between 82 and 126 million lbs. The latter is maximum. To supply this demand, we have an Argentine production of 60 to 65 million lbs. annually, plus negligible production in other countries. It is thus evident that there is now a very acute worldwide casein shortage, which will continue at least throughout 1946. We can expect prices to continue to increase until sufficient production is developed to meet the essential needs of the world.

It is well to point out that Argentina is beginning to develop itself into a similar milk-product position to that of the United States. Being one of the world's largest producers of dairy products, and having improved techniques of sanitation and processing under war demand, it is natural that the milk producer in Argentina should move towards the manufacture of edible dairy products, such as cheese, and milk powder, and thus cut into the supply of skim-milk which now goes into the production of casein.

Calendar of Coming Events

June 17-20, 1946.—American Pulp and Paper Mill Superintendents Association, Annual Convention, Poland Springs, Me.

Urges Dealers to Protect Printers

Competition for paper supplies, heightened by the current scarcity, makes it necessary for paper distributors to use every means to assure equitable distribution, according to James F. Newcomb, president of Printing Industry of America, Inc., national trade association of the commercial printing industry.

In a letter to A. H. Chamberlain, executive secretary of the National Paper Trades Association, Mr. Newcomb pointed out that in periods of scarcity the small businessman is likely to suffer most. He called upon the paper dealers to take steps to assure their regular customers a fair share of the existing supply.

Members of Printing Industry of America have generally reported that dealers are extremely cooperative with establshed accounts in filling needs up to the limit of their supplies, Mr. Newcomb said.

Posing four questions, the answer to which would give a fair picture of the paper situation as it affects the printing industry, Mr. Newcomb asked:

"Have the dealers not been getting their proportionate share of the total increase in paper production which has taken place?

"Have the dealers been frozen out by the purchase of mills whose supplies are therefore no longer available to the trade?

"Has a disproportionate share of the paper been available to one or another type of user—book, magazine or job printer?

"Is the small buyer not receiving his proportionate share of the total paper available?

"If the answer to any of these questions is 'Yes,' you ought to do something about it.

"The interests of our industry and of yours are identical in this respect, and I bring you a plea that you use your influence with the paper manufacturing industry to increase production, to encourage new production, and to continue distribution through normal channels."

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
February 23	98.0	February 24	89.7
March 2	101.8	March 3	89.3
March 9	103.4	March 10	87.7
March 16	104.1	March 17	89.4
March 23	105.0	March 24	92.1
March 30	*104.9*	March 31	88.9

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	*104.4*										

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	79.7	85.7	89.2	103.6	88.6	88.4	88.4	*98.6*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

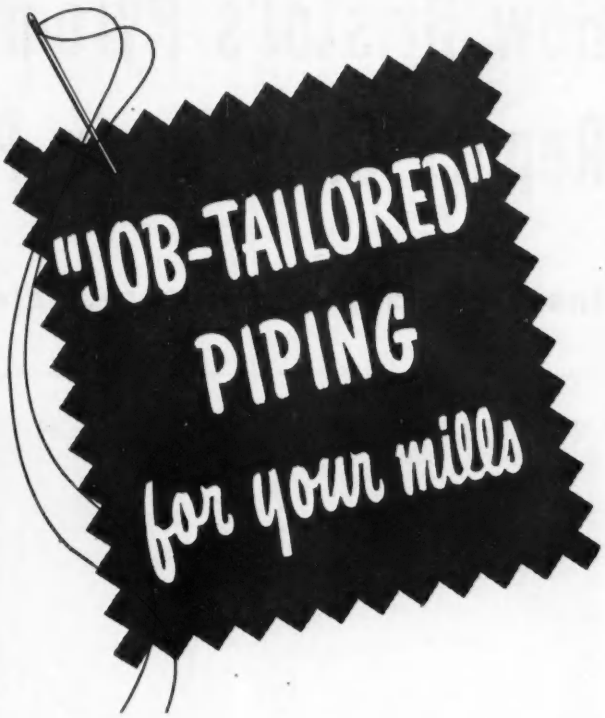
*Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
February 23	97	February 24	97
March 2	98	March 3	96
March 9	99	March 10	94
March 16	100	March 17	95
March 23	99	March 24	99
March 30	*100*	March 31	100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	90	97	*100*										

†Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



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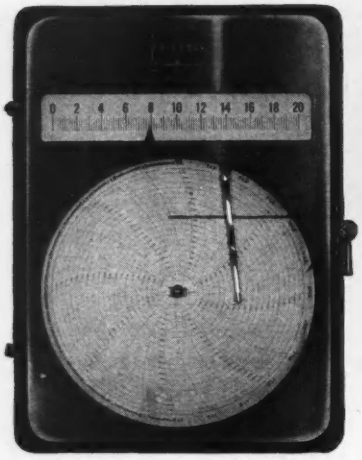
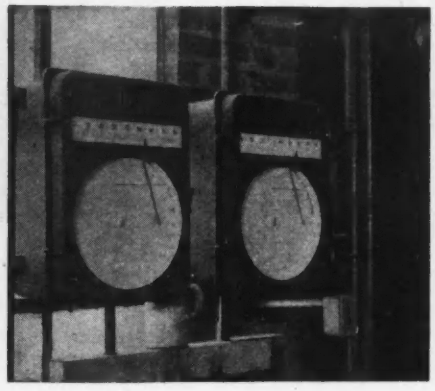
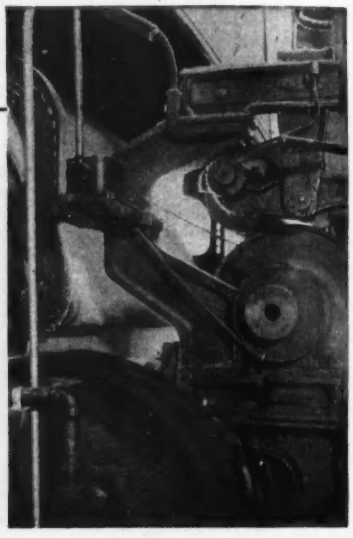
How Bristol's Pyromaster Tachometers Report Changes in Paper Travel Speed

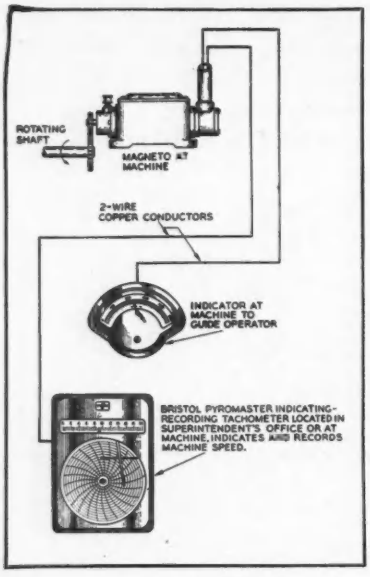
Instantly and Accurately...Electrically







Two Bristol Pyrometer Tachometers keeping tabs on machine speeds in a Massachusetts mill. Notice how the magneto is V-belt-connected to one of the rolls.


ROTATING SHAFT
MAGNETO AT MACHINE
2-WIRE COPPER CONDUCTORS
INDICATOR AT MACHINE TO GUIDE OPERATOR
BRISTOL PYROMASTER INDICATING-RECORDING TACHOMETER LOCATED IN SUPERINTENDENT'S OFFICE OR AT MACHINE, INDICATES AND RECORDS MACHINE SPEED.

Some paper mills install an indicating tachometer at the machine to guide operator and a recorder in superintendent's office for permanent records. Other mills rely on one Indicating-Recording Pyromaster Tachometer mounted close to the machine.

Bristol's Indicating-Recording Pyromaster Tachometer responds instantly to changes in machine speed as reported by the heavy-duty Model 44 Magneto which generates voltage directly proportional to the speed. The sensitive recording mechanism — unaffected by vibration — moves only when the galvanometer responds to a speed change. That reduces wear of moving parts to the minimum.

With no mechanical connection between galvanometer and the other units, the galvanometer, potentiometer unit and potentiometer relays are housed in separate gasketed cases for protection against dust and air currents when the instrument door is open.

All parts are accessible with the instrument in full operation. Dial and recording mechanism are mounted on the front of a hinged panel, with slide wire and potentiometer mechanism on the back. Each part can be serviced without disturbing any other part. No lubrication is ever required.

Other features of Bristol's Pyromaster Tachometer are fully described in Bulletin S1400. Address THE BRISTOL COMPANY, 148 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont. Bristol's Instrument Co., Ltd., London, N.W. 10, England). West Coast: *Branch Factory*—40 Berry St., San Francisco 7, Calif. *Branch Office* — White Building, Seattle 1, Washington. Lake Region: *Branch Factory & Office*—351 East Ohio St., Chicago 11, Ill. Southern States: *Branch Office*—Comer Building, Birmingham 3, Alabama.

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Edited by R. G. Macdonald, Secretary

White Water Reuse and Disposal*

By H. A. Morrison[1]

Abstract

Disposal of excess white water has been stressed too much. The extent of the disposal problem depends directly upon the degree of reuse within the mill.

Well clarified and chemically conditioned white water is being reused on machines making most kinds of paper. Typical examples are cited together with cost data.

Flow diagrams, evolved by long experience for fourdrinier and for cylinder machine systems are given.

It is argued that most paper mills will realize a profit by reducing their excess water volume, improving its clarity, and reducing its oxygen demand.

It has been stated that a paper machine saveall system, can be defined as a "practical and workable arrangement to prevent or at least minimize losses to sewer without lowering paper quality." This definition is being met in varying degree by various systems in which wide differences in kind of saveall, paper machine type, size and speed, grade of paper, frequency of order changes, character of incoming water and water costs, with many other factors, must all be taken into account.

With all of the above in mind, it is evident that a satisfactory saveall must save both fiber and filler and return them to the machine chest in suitable condition for inclusion in the sheet being made. The direct recovery of at least 95% of all suspended solids is being realized for most grades and should be demanded.

Twenty-five years ago, papermakers generally and honestly believed that high-grade paper production necessitated sending most of the white water to sewer. It was stated that inclusion of white water solids in book or bond sheets, for example, inevitably led to weak, dingy, and dirty products. At that time chlorination was seldom practiced.

Floor water containing dirt and oil often contaminated the wire and couch pit. Steel pipes added rust and scale to the white water. Shower water pressures were low and volumes of shower water were excessive. There were no savealls able to make high recovery of white water solids when handling large volumes of stock and water. In addition, there was but little pressure against stream pollution by industry.

The conclusion of the many first-class papermakers of that time was entirely correct. They did not then have the equipment or conditions existing today.

The evolution and improvement of saveall equipment, also the use of noncorrosive pipes, tile-lined wire and couch pits, chemical treatment for slime control, use of less shower water at greatly increased pressure, the employment of coagulants such as glue or sodium silicate, and many other factors, combine to entirely reverse the picture.

Scientific control of white water is now not only possible but is an actual necessity.

It is generally known today that each paper machine should have its own saveall and should reuse its clarified white water to a large degree. The largest and fastest paper machines on news, bond, book, waxing, wrapping, bag, container board, and many other grades of paper and board, all have highly efficient savealls operating to condition the white water for reuse.

Installations

Vacuum filter savealls are now widely used and well established. They meet the exacting demands for high clarity white water suitable for reuse on all paper machine showers. The filtrates normally contain no long fiber, with total suspended solids considerably below 1.0 pound per 1000 gallons. Table I gives typical results on various kinds of paper mill white water.

TABLE I

Grade	Tons/day	White Water, g.p.m.	Filtrate, lb./1000 gal.
News	100	1600	0.51
Kraft bag	80	1200	0.20
Container board	200	2000	0.75
GW tissue	35	850	0.65
GW hanging	65	1100	0.90
Standard book	40	750	0.85
Bond	50	950	0.45
Ledger	40	1000	0.30

The advised arrangement for a vacuum saveall is shown for fourdrinier machines on Fig. 1, and for cylinder machines on Fig. 2.

The installations have much in common but each represents an arrangement evolved by experience and generally known as the best for each type of paper machine. The savealls return the recovered white water solids, together with the "sweetener" stock, to the machine chest at or above the consistency desired there. Consistency of furnish to the paper machine is controlled as stock from machine chest is measured out to the jordans, or sent to the fan pump.

The flow diagrams indicate that excess clarified water, beyond the volume continuously recycled to the paper machine, goes to sewer. It is obvious that

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member TAPPI; Sales Engineer, Oliver-United Filters, Inc., New York, N. Y.

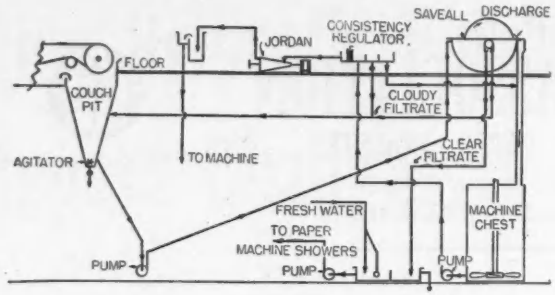

FIG. 1
Typical Saveall Installation on Fourdrinier Machines

volume to waste closely approximates that of outside water introduced into the machine circuit.

It is the purpose of this discussion to show how to (1) minimize the flow to waste, and (2) condition this excess water to avoid pollution.

The following examples may indicate what can be done:

EXAMPLE 1

When a paper machine operates on slush stock at 3% moisture-free consistency and makes 100 tons per day, the stock is roughly 560 g.p.m. going into the machine circuit. On such a machine, the circulating load may be 1600 g.p.m. If no additional outside water enters the circuit at any point, and with due allowance for sheet going to driers at 15% moisture-free or 112 g.p.m., it will still be necessary to waste about 448 g.p.m.

In contrast to the above, when the 100 tons of stock comes to the beaters in sheet form—at say, 80% dry—the volume added to the machine circuit amounts to only 21 g.p.m. In this case, 91 g.p.m. additional water is needed to maintain balance in the system, as 112 g.p.m. is carried away to the driers. In both of these cases, all beater water for the machine is supplied from its own water circuit.

In practice, it has been found generally advantageous to send 15 to 20% of the well clarified white water out of the machine circuit. This is done primarily to prevent accumulation of dissolved substances which could induce foaming and promote slime growth.

Industrial plants, including paper mills, are being requested by sanitary boards both state and federal to (1) largely remove the suspended solid content of their waste effluent, (2) largely eliminate objectionable colors and odors in the outgoing water, and (3) limit its biochemical oxygen demand (B.O.D.) to "approximately that of the water in the stream or lake into which it is delivered."

All are becoming conservation minded. It is well and right to keep the streams free from all forms of pollution. Good health for all is a first consideration. However, one must be practical and not fail to recognize the costs.

Fortunately it is commonly found that compliance with all reasonable demands for avoidance of pollution does actually increase net income rather than adding excessive costs.

EXAMPLE 2

The case of a small mill making towelling on a cylinder and groundwood tissue on a fourdrinier is cited. Production is 35 tons daily, and the combined white water flow from the two small machines amounts to 500 g.p.m. containing 5 pounds fiber per 1000 gallons. One vacuum saveall will handle all of the white water, and the recovered stock can all be included in furnish to the cylinder machine without lowering the grade of its sheet.

A vacuum saveall, area 300 square feet, will clarify the 500 g.p.m. white water to average below 0.50 pound insoluble solids per 1000 gallons. Of the total, 400 g.p.m. can be recirculated for use at the various showers of the two machines, including all felt and wire showers.

Net recovery of machine furnish totals 3240 pounds daily. Net daily loss in the excess 100 g.p.m. going to waste amounts to only 72 pounds. with this system, alum usage is reduced about 60%. Heat losses are only 20% of previous averages. Reduced velocity of flow, because of reduced water demand, improves sand filter performance. Less dirt comes into the mill with the incoming process water, and cleaner paper is produced.

As stated above, the daily production of 35 tons per day is realized when white water loss is only 72 pounds insoluble solids, equivalent to 0.01%. Dissolved solids in the wasted 100 g.p.m. may represent shrinkage more than that of fiber. White water losses, in the mill under discussion, may thus be somewhat more. Maintenance of the saveall, labor, power, and fixed charges, together with depreciation at 10% per year, all amount to about $4000.00 annually. Net return to the mill is at least four times the costs.

Disposal of the rejected 100 g.p.m., amounting to 144,000 gallons per day with "B.O.D. comparable to that of the stream" remains to be accomplished. Suspended solids in this water, 0.50 pound per 1000 gallons, are probably low enough to avoid noticeable contamination of most streams or lakes.

Control of effluent water oxygen demand can be accomplished without excessive cost provided the volume is small as compared to tonnage of paper made.

BOOK PAPER SAVEALLS—EXAMPLE 3

The following is typical of vacuum saveall applications in chemical book paper mills:

The system as shown on Fig. 1 is successfully used on many book paper machines, excepting that of the intial (cloudy) filtrate (usually about 20% of the total flow through the filter valve) is sent to a separate chest for beater use. Any overflow from beater chest gravitates to the couch pit and is recycled over the saveall.

The importance of recirculating the cloudy filtrate either for beater use or direct to couch pit is well

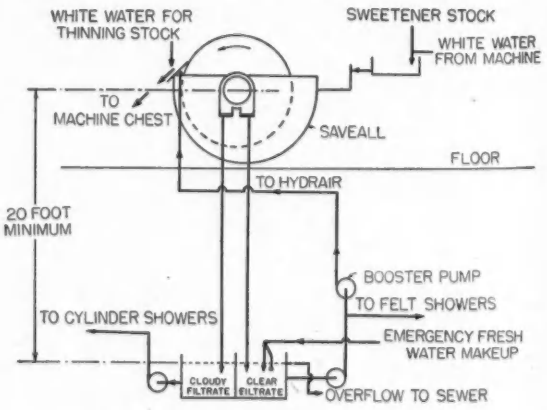

FIG. 2
Typical Saveall Installation on Cylinder Machine

shown in Table II below. The figures show two different conditions and results on a vacuum saveall handling 500 g.p.m. white water on a machine making 35 tons per day 40 pound E.F. book paper. Poor recovery is realized when feed conditions are incorrect.

TABLE II

	Case A	Case B
White Water (feed)		
Filler, lb./1000 gal.	7.88	11.69
Fiber, lb./1000 gal.	8.72	15.90
Total insolubles, lb./1000 gal.	16.60 (too low)	27.18 (right)
"Cloudy" Filtrate		
Filler, lb./1000 gal.	5.42	1.79
Fiber, lb./1000 gal.	9.52	0.91
Total insolubles, lb./1000 gal.	14.94	2.70
G.p.m.	100	100
"Clear" Filtrate		
Filler, lb./1000 gal.	4.20	0.59
Fiber, lb./1000 gal.	2.03	0.24
Total insolubles, lb./1000 gal.	6.23	0.83
G.p.m.	400 Shower water	400

In A, ribbon trim going to couch pit was 1.5 inches wide on edges of sheet; while in B, the ribbons were 5 inches wide. No sweetener was added in either case.

Addition of sufficient jordanned machine furnish to increase white water (feed) consistency of A to correspond with that in B would have greatly clarified both clear and cloudy filtrate to duplicate the excellent recoveries secured in B.

Excess clear filtrate on above machine, about 100 g.p.m. goes into the deinking system. If sent direct to sewer, the loss of insolubles would be only 120 pounds per day.

It is essential to control and prevent slime growth in a paper mill where outflow is small. Chlorine, chloramines, or various other water soluble slime inhibitors may be introduced as the fresh water leaves the sand filters, and/or at the intake of the shower water pump which returns saveall filtrate for reuse. When the water to waste carries residual chlorine, it may be acceptably low in oxygen demand, and require no supplemental treatment.

Flocculation

Introduction of sodium silicate to promote floc formation and to minimize corrosion on raw water and white water is well established, as described by Baylis, Hay, Schworm, and others. Soda-alum treatment is effective over a rather wide range of conditions. Combination treatments, including certain applications peculiar to the paper industry, such as, use of a special glue and controlled aeration, clearly indicate that small volumes of process water containing very limited amounts of fiber in suspension, can be conditioned for rejection at moderate cost.

If simple chlorination of 4000 gallons excess water per ton paper made, fails to meet state or federal standards, then the outgoing water should be impounded and given chemical treatment prior to (1) sending it to waste, or (2) returning it to mill fresh water intake.

The character of the impurities will determine what treatment is indicated. Appling and McCoy offer valuable suggestions regarding the use of disinfectants in paper mill white water.

The ability of the chemists to condition the water of the rivers for human use, at very reasonable costs, clearly shows that pulp and paper mill excess water control and purification poses no serious problem.

Capacity and recovery on vacuum savealls are both promoted by increased freeness of the feed; likewise, the ratio of fiber to filler in the feed mixture must not be disregarded.

The ability of the saveall sheet to retain short fiber and filler is comparable to that of a sheet on the paper machine wire. When the ratio of filler to fiber is greater than 2 to 3, additional filler-free fiber, preferably taken ahead of the jordans, should be added to saveall feed.

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J. C. Nutter Now with John Inglis Co.

J. C. Nutter has been appointed Technical Manager of the Pulp and Paper Machinery Division, John Inglis Co. Limited, Toronto. Continuously employed in the Pulp and Paper Industry since graduation

J. C. Nutter

from McGill University in 1921, Mr. Nutter has held responsible positions with several Canadian and U. S. companies.

John Inglis Co. Limited manufactures in Canada Pusey & Jones paper machines, both cylinder and fourdrinier, and also Goslin-Birmingham multiple effect long tube evaporators for the chemical pulp industry.

Chemistry of Carbon Compounds

The Elsevier Publishing Company has just issued the third English edition, based on the twelfth German edition, of the Chemistry of Carbon Compounds by Victor von Richter and Richard Anschutz. This is Volume III, Aromatic Compounds, translated by A. J. Mee of Glasgow, Scotland. (794 pp. 6 x 9). This book is very much in the nature of an encyclopaedia covering such aromatic compounds and their derivatives as benzene, the phenols, aromatic alcohols and multinuclear aromatic compounds.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $15.00 per copy.

Improvements in the Coagulation of Surface Waters with Activated Silica*

Developments in Batch and Continuous Preparation

By L. L. Klinger[1]

Abstract

The use of colloidal silica in producing coagulant aid has been investigated and found successful for both colored and soft lowland waters as well as turbid and hard lowland waters. Most of the well known methods for activation of the silica in sodium silicate were tried as well as others, some of which have been suggested in the literature, but not applied in actual practice. The principle of continuous feed has been applied successfully in the preparation of the hydrosol. The resultant filtered water is less turbid, of somewhat lower color and silica content, of somewhat higher pH, sparkling and clear. The activated silica remedies many of the difficulties attendant in the production of a suitable filtered water, such as needed in the paper industry.

In an attempt to obtain improved filtered water at the Wisconsin Rapids Division of the Consolidated Water Power & Paper Company, much development work was done with various well known agents employed for improving coagulation. Slight improvement was obtained until activated silica was tried and proved successful.

Since the colloidal silica reacted so favorably, an extended development program followed involving the preparation by the various well known methods as well as others. The principle of continuous activation was applied when it was decided to use the silica on a long term basis. The application proved successful and offers the advantages accompanying continuous feed processes, such as practically automatic operation, less labor requirement, and less capacity requirement.

Application of Coagulant Aids

The coagulation of colored and turbid waters and the chemical considerations involved in such coagulation have been discussed by various investigators too numerous to indicate completely in a paper of this nature. Miller has discussed the principle of the "color-floc" *(1, 2)*. Cox *(3)* has summarized the reaction of alum for various types of raw water. Behrman, Kean, and Gustafson *(4)* have shown that color particles in water due to gallates, humates, and other organic matter are negatively charged and colloidal. They have explained that coloring matter is essentially organic in nature as can be proved by the oxygen consumed test and also charring of coagulated color on ignition.

Essentially, coagulation of colored waters is accomplished with an acidic coagulant such as alum. The required dosage of coagulant is usually proportional to the raw water color. Sufficient natural alkalinity must be present to react with the coagulant; if not, then artificial alkalinity is added in the form of soda ash or lime. If excessive, then the akalinity can be reduced with an acid reagent such as sulphuric acid.

When turbidity is present, it may be beneficial or detrimental, depending upon the colloidal nature of the particles producing turbidity.

Because it is frequently difficult to densify bulky color flocs or precipitate turbidity, many coagulant aids have been tried; some with success, and some with failure. The average coagulant aid applied introduces colloidally charged particles to effect more proper neutralization of an opposite floc charge with consequent depeptization of the floc particles. The result is a tougher and denser floc which settles more rapidly.

Activated silica hydrosol prepared by the partial or total reaction of the sodium oxide content in sodium silicate has been applied successfully as a coagulant aid in many instances. The process involves the reaction of a suitable grade of sodium silicate, such as one having a ratio of 1 part of Na_2O to 3.2 parts SiO_2. A typical analysis is Na_2O, 8.9%; SiO_2 28.7%; and water, 62.4%. The stoichiometric balance involved is best demonstrated by an analysis of a typical neutralization at 85%;

$$Na_2O + H_2SO_4 \xrightarrow{85\%} Na_2SO_4 + H_2O$$

$$0.089 \times \frac{98}{62} \times 0.85 = \text{Pounds 100\% acid per pound silicate (as received)}$$

Activation or colloidal micelle growth occurs through a release of silica from sodium silicate. The degree of activation is controlled by the starting dilution of the silicate, by the length of the time of aging, by the percentage reaction, and, in a minor way, by changes in makeup water temperature. When brought to an optimum point, it is stabilized by dilution. For purposes of characterizing the difference between it and ordinary silica, activated silica is usually labeled: $-SiO_2-$.

Certain "alum-color" and "alum-clay" flocs, or combinations, carry an excessive positive charge due to the high reactivity of the alum necessary to produce a floc. Thus, the color or clay, or both, frequently require auxiliary aid which can be given by negatively charged silica for more nearly perfect equalization of charges with attendant densification and toughness of the floc formed.

Historical Review

Noreus *(5)* has discussed the successful application of activated silica as a coagulant aid in the production of a process water of low color and turbidity from a highly colored soft water, difficult to handle with alum alone. He resorted to activated silica when other means had failed. His pioneer work in the paper industry with activated silica is highly interesting and significant.

In a discussion of silica processes, Noreus briefly reviewed the various well-known methods applied in

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member TAPPI; Chemical Engineer, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.

the production of a silica hydrosol. These will be elaborated upon, since much of the work in this paper deals with the different applications.

The well-known processes are the Baylis process *(6)*, the Graf-Schworm process *(7)*, the N-Sol B process *(8)*, and the N-Sol A process *(9)*.

Baylis, working at Chicago on Lake Michigan water, developed the application of activated silica when he found it produced coagulant aid for this water. He diluted a soluble sodium silicate (ratio 1: 3.2) to 1.5% of SiO_2, and neutralized the alkali content 85% to 1100 to 1250 p.p.m. as $CaCO_3$ with sulphuric acid. Upon aging the resultant sol 2 hours and diluting to 0.6% SiO_2, he produced a very efficient coagulant aid. The thorough basic study *(6, 10)* made by Baylis is still a reference index for investigators.

The Graf-Schworm process, in which a measured feed of 1% silicate is mixed with a measured amount of 1% alum, was developed for the turbid waters of the Mississippi. In a ratio of 4 parts of alum to 1 of silicate, this mixture is fed continuously as a coagulant.

The N-Sol B process, developed by Baker and Dedrick, differs from the Graf-Schworm in that a stable sol is produced by adding just enough alum or iron salts to combine with a greater portion of the alkalinity of the silicate. The solution is aged, and then diluted for stability. It is fed separately, after which the alum coagulant is added.

The N-Sol A process, or ammonium sulphate reaction, developed by Hay, is the first method devised in which the titratable alkalinity is not reduced. The by-product of the reaction is ammonium hydroxide which keeps the alkalinity of the sol at the same value as the starting diluted silicate. Thus the reaction can proceed to 100% instead of 85% as is common in the Baylis sol. Through this process ammonia is available for the production of chloramines.

Hay has also conducted a great deal of recent development work with activated silica *(9, 11, 12)* in which he outlines investigative procedures for jar test development studies and in which he has suggested the use of carbon dioxide, sulphur dioxide, sulphur trioxide, chlorine, and acid salts as activating agents. He has suggested the concept of continuous processing *(11)*.

Process Water Development at the Wisconsin Rapids Division

In recent years, the call for increased treated water has at times made filtration plant operation difficult. Because it was recognized that future expansion was imperative, a great deal of development work was done with the intention of finding means of improving efficiency in the present operation which could be translated into a revised operation. Since efficient operation is largely dependent on coagulation efficiency, the development program centered on this phase. A laboratory program proved that silica coagulant aids were most effective and simple in application.

The source of supply is the Wisconsin River, a typical lowland and colored water. Following is a compilation, showing the range of water analyses over a long term period:

pH	6.8-7.1
Color in Pt units, p.p.m.	75-250
Turbidity as SiO_2, p.p.m.	0-40
Total hardness as $CaCO_3$, p.p.m.	20-65
Calcium hardness as $CaCO_3$, p.p.m.	12-40
Alkalinity to methyl orange as $CaCO_3$, p.p.m.	17-60
Iron as Fe, p.p.m.	0.2-0.4
Silica (soluble as SiO_2), p.p.m.	2-17
Total dissolved solids, p.p.m.	100-130
Soluble solids, p.p.m.	50-65

Filter Plant Equipment

The filter plant is of conventional design, consisting of two square flocculators in series, followed by three round-the-end sedimentation basins in parallel, two of which feed three filters each and the other two filters. The total capacity of the two flocculators is 30,000 gallons, giving a theoretical detention of 8 minutes at a 5.5 m.g.d. rate. The average sedimentation basin volume is 340,000 gallons, allowing approximately 4 hours theoretical detention time. The eight filters have a total area of 2016 square feet. The unit rate of flow is 1.8 to 1.9 gallons per square foot per minute. The clear well has a capacity of 88,000 gallons.

The filter media, at present, is Anthrafilt. Since higher rates of filtration are possible with this media, the original sand beds were replaced with Anthrafilt. Such an arrangement eliminates the necessity of more filters with increased demand.

Alum is fed volumetrically and is metered by a Leeds and Northrup automatic pH recorder and controller into the first flocculating tank. The demand varies from 60 to 120 p.p.m. During periods of low alkalinities, the required artificial alkalinity is added gravimetrically as soda ash into the same flocculator. Chlorine and ammonia in a ratio of approximately 10:1 are fed into the second flocculator for the production of chloramines for sterilization. Approximately 3.5 p.p.m. of chlorine is needed for a retention of chloramines slightly under 1 p.p.m. Although the ammonia is not desirable in the boilers, the feed water, makeup of which is filtered water, it has never been found highly excessive.

Initial Investigations with Silica

During August, 1944, the first plant applications of activated silica were made, employing the production of the Baylis sol at 85% neutralization. Table I summarizes the preparation of this sol as well as others to be described later. Immediately upon addition of the silica at 5 p.p.m. between the first and second flocculators, a "snow-storm" floc appeared in the second flocculator. Cutting back to 3 p.p.m. $-SiO_2-$ gave a floc of similar quality, but further cuts reduced the effect of the silica aid appreciably. Addition of the sol to the first flocculator, before the alum had built up a pin-point floc, gave negative results. Since that time, the addition of silica at 3 p.p.m. has resulted in better flocculation exceeding that of straight alum by quite a substantial margin.

Filter Bed Plugging

After a few hours of operation, back-wash increased to a point where is was practically impossible to operate. Inspection of the top surface of the filter sand revealed that a somewhat sticky film adhered to the sand. A high resistance to flow existed and it was necessary to backwash each bed after only a few hours to keep up with the plant demand.

An attempt at post neutralization of the Baylis sol from 85 to 95% failed to rectify the situation, even though excellent flocculation aid was rendered. Since it was shown by analysis that the sticky film on the surface of the beds was due to silica, it was thought that less dissolved silica, or, conversely, a more highly activated quantity would result in better operation.

A simple "graduate" test proved that the backwash was inadequate. After a wash, a sample of the top layer, approximately 500 ml., was placed in a 1-liter graduate, the graduate was filled to the liter mark with water, and the contents were shaken manually. The graduate was placed upright, allowing the

sand to settle. The floc and mud of lower density, not removed by backwash, settled more slowly and thus formed a separate layer above the sand. The proportion of mud and floc by volume showed that backwash was decidedly inadequate with the presence of silica-alum floc.

With a sand size of 0.45 to 0.5 mm., it was possible to backwash at 12 to 15 gallons per square foot fairly efficiently with alum alone, but this rate, which is all that mechanically can be produced, was not sufficient for the silica-alum floc.

During this period of development work, the sand beds were gradually replaced with Anthrafilt of 0.7 to 0.75 mm. average size to increase the capacity for the intended expansion. Since the density of Anthrafilt is approximately 50% of that of the sand, a more efficient backwash was possible. Thus the Anthrafilt beds could be washed cleaner and longer runs were achieved. The "graduate test" bore this out. Simultaneously, with the installation of Anthrafilt, Palmer agitators were installed in each bed. With the efficient surface wash produced with Palmer agitation, negligible dirt remained after backwashing, and filter plugging was entirely eliminated. It is interesting to note that one of the original sand beds had not yet been replaced with Anthrafilt at this time, and even this bed operated properly because of efficient surface washing due to the auxiliary agitation.

Since a certain amount of floc carries to the average filter bed from the sedimentation basin, the application of silica is warranted only if it is known that an efficient backwash is possible. Otherwise, the silica-alum floc, which is denser and slightly sticky, cannot be washed properly from the bed and accumulates in serious proportions until the frequency of backwash increases to where operation becomes intolerable. This is especially true, if beds are dirty before application of silica.

Dissolved Silica Concentrations

It has been stated by various investigators that the application of the silica hydrosol does not increase the soluble silica in water. However, few such statements have been substantiated by experimental data. Noreus *(5)* has shown approximately a 50% reduction with the silica process. He does not report a comparative figure for the reduction by the same alum dosage without activated silica.

A photometric method, developed by Kahler *(13)*, was used for a study of dissolved silica concentration of both raw and treated water. This method is sensitive in the presence of tannin and other impurities in natural occurring waters. Following is a compilation of results during various periods:

Testing Periods in 1945	Flow Characteristics	Dissolved Silica as SiO_2, p.p.m. Raw Water	Dissolved Silica as SiO_2, p.p.m. Filtered Water	Reduction, %
Feb. 24-March 15	Normal water flow	15.8	12.2	23
March 16-March 24	Spring run-off	6.1	4.2	31
May 28-June 4	Rain, high flow	2.9	2.0	31
June 5-June 9 (No activated silica)	Rain, high flow	3.2	3.2	0
June 11-June 16	Rain, high flow	3.7	2.5	32

All the periods, except the one in which activated silica was not used, show a reduction in dissolved silica concentration through the filter plant. It is well known that ordinary water treatment processes do not remove dissolved silica and data from the one period above during which no activated silica was used is evidence that this is true.

Thus, activated silica reduces natural silica in the water. To those who use process water for boiler makeup, this fact should be of some importance, especially if they are inclined to believe that silica is detrimental. Recent work *(14)*, however, has indicated otherwise.

Broadening pH Range

It was found in actual plant trials that activated silica broadens the effective pH range of coagulation. The ordinary pH of coagulation without silica hydrosol is 5.3 to 5.4, but with the silica it has been possible, especially during periods of easier coagulation, to reduce the alum and to increase the pH to 6.1. However, when such a higher pH range is employed, the operation is slightly more difficult to control satisfactorily except with direct supervision.

At a certain point, such as the pH 6.1 during the preceding tests, the finished water color increases, the floc gets finer, and the overall filtration efficiency is decreased. Extended operation at these marginal pH values would probably decrease filter runs, but not enough work has been done to evaluate this completely.

Other Batch Preparations

1. *N-Sol A.* The N-Sol A, or ammonium sulphate activation, was prepared at 100% reaction both in the plant and in the laboratory. Flocculation aid was excellent both in the plant and in jar tests. However, since the reaction involves the production of ammonia as byproduct, and since the process water is used for boiler make-up, it is interesting to note the ammonia buildups as tabulated:

	NH_3 Concentration as p.p.m. Nitrogen: Before Treatment	NH_3 Concentration as p.p.m. Nitrogen: Max. During 4-Day Treatment
Filtered water	0.10	0.35
Boiler feed	Trace	0.35
Turbine condensate	Trace	0.40
Machine condensate	0.10	0.50

How serious this condition would have become can only be speculated. It is generally accepted *(15, 16)*, though, that even a relatively small amount in a steam system is corrosive to copper and copper alloys. Since it flashes off with the steam as ammonia gas and reverts to the hydroxide upon condensation, it must be eliminated in a closed system. Continuous repetition of such a cycle can build up the concentration of ammonia to serious proportions.

2. *Baylis—N-Sol A.* A combination of activating agents, sulphuric acid and ammonium sulphate, were used to produce a sol which upon application furnished just enough ammonia to the system as is generally applied as anhydrous ammonia for the production of chloramines, thus eliminating the need for anhydrous ammonia. The sol produced efficient coagulant aid. The method offers a saving because expensive anhydrous ammonia is replaced with the ammonia as the byproduct from the activation.

3. *N-Sol B.* Tried in the laboratory with slight success, repeated jar tests showed it to be of little value for a plant scale trial. Apparently the sol fits into a treatment of turbid waters rather than colored waters. That the application of this sol is effective for turbid waters has been inferred by many familiar in its application.

4. *Sodium Bisulphate.* This salt, a byproduct of certain heavy chemical plants, is very cheap when a filtration plant is located near the source of supply. In both the plant and laboratory the activated silica produced with this reagent definitely showed good coagulation aid.

5. *Bicarbonate of Soda.* This salt was tried at both 85 and 100% reaction. Coagulation aid is good in each case. However, the 100% reaction holds a slight

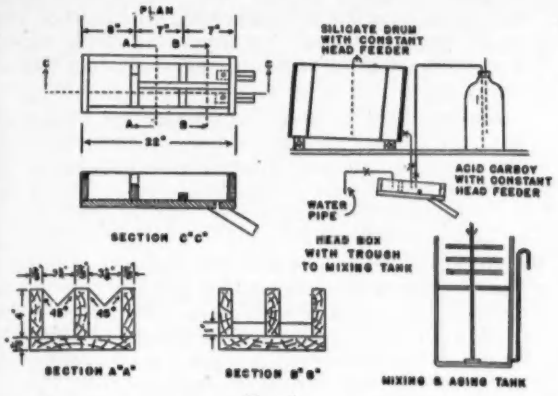

FIG. 1

Sketch Showing Details of Headbox Design and Scheme of Constant Feed to Mixing Tank

edge both in jar tests and in the plant. The reaction of sodium silicate with bicarbonate produces the colloidal sol and sodium carbonate which approximately doubles the alkalinity of the starting silicate solution. This contributes to the stability of the sol and serves as a credit against the alkali otherwise used for alkalinity adjustment.

CONTINUOUS FEED EQUIPMENT

The batch method of preparing activated silica involves mixing of the required chemicals, aging in quiescence, and then further dilution to retard aging during storage. In the preparations described, a 600 gallon mixer, salvaged from a hot lime-soda softening plant, is used for mixing the silicate and activating chemical. The required silicate is added to approximately 350 gallons of water and is agitated to insure proper mixing. Then the activating chemical, diluted in a barrel above the mixer, is added slowly with mixing. The total volume is brought to 400 gallons with water and again mixed to insure homogeneity. It is then aged in quiet state the necessary time and diluted to 600 gallons and dropped into a storage tank below to be pumped to the system. Three to four such batches are made daily. Since they are made during one shift to decrease labor cost, approximately 2400 gallons of storage are necessary.

Continuous feed equipment that would somewhat simulate the necessary steps involved in batch feeding

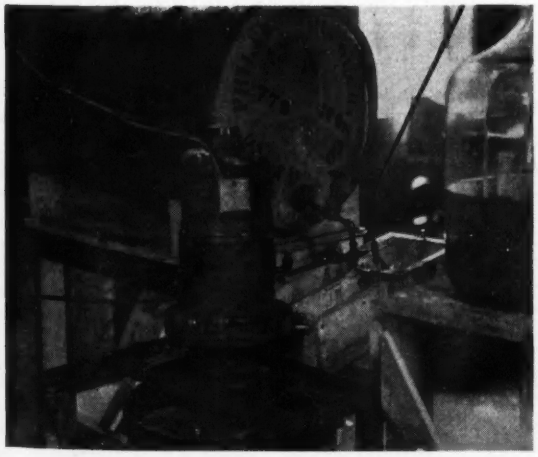

FIG. 2

Continuous Processing Equipment for Feeding Liquid Reactants

was built on pilot plant scale. It consists of a 30-gallon barrel divided into two sections, one for mixing and one for aging. The top one third of the tank has paddles for mixing. A segmental plate fits on a flange. This plate has two holes in it, which are ports to the aging zone of the bottom section.

The details of this equipment are shown in Fig. 1. This cut also shows the headbox in which water is metered and split into two portions, one portion being used for diluting concentrated silicate fed from a constant head and the other portion for diluting the liquid reactant also fed from a constant head. Figure 2 shows the experimental arrangement pictorially.

The above layout can be applied only to liquid feeding of activating agents. Figure 3 shows the method used for applying a gaseous reagent. The gas is filtered, reduced to a constant pressure, and is metered by a rotameter through a vacuum shut-off valve. From this valve it is introduced under the surface of the mixer through alundum diffusers. At the start of applying gaseous reagents, the one tank was used, but most of the succeeding work was done with a 50-gallon aging tank in series with the 30-

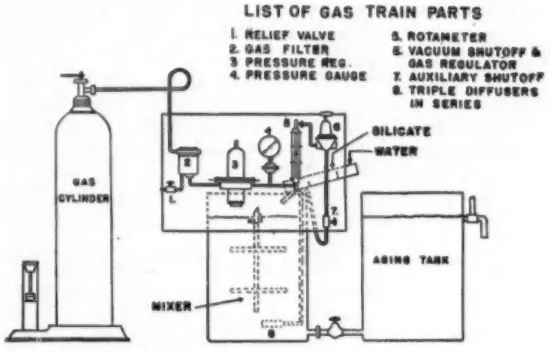

FIG. 3

Continuous Preparation with Gaseous Reactants

gallon tank that had previously been used for both mixing and aging. With this arrangement, the segmented plate was removed and the diffusers were placed at the bottom of the tank, and the entire tank was used as a mixing tank.

EXPERIMENTAL CONTINUOUS FEED STUDIES

The output of the pilot plant when the one barrel is used alone as a mixing and aging unit is approximately 1.65 p.p.m. $-SiO_2-$ for a 5.5 m.g.d. The actual total detention time is 1.25 hours of which the time, theoretically, for mixing is 25 minutes and quiescent aging is 50 minutes, although it can be considered that aging is occuring throughout the operation. When the two barrels are used, as in the gas feed of activating reagent, the feed of chemicals and water is doubled. With such an arrangement it is possible to produce 3.3 p.p.m. $-SiO_2-$, which is a sufficient quantity for the filtration plant.

In the initial continuous feed studies, the remainder of the necessary silica was added from the batch system so that the required minimum quantity for coagulant aid was admitted in the plant.

1. *The Baylis Sol.* Since the Baylis sol was being used on a plant scale in the batch process, it was the logical first choice for comparison. The sol, prepared at the standard concentration of 1.5% $-SiO_2-$, produced efficient coagulant aid equivalent to the batch silica, as shown in comparative jar tests. The feed of the sulphuric acid was difficult to control with con-

stant head gravity flow, but it could be held between 900 and 1250 p.p.m. alkalinity as calcium carbonate without difficulty. For long-term plant operation, proportioning pumps for pumping both acid and silicate would be more satisfactory.

2. *N-Sol A.* This method was tried only for experience in its preparation, since it was previously shown that it is not adaptable because of ammonia build-ups. The method is not as critical, from the standpoint of extremely accurate chemical proportioning, as the Baylis process. Any overdose of ammonium sulphate, if not sustained over lengthy periods, is not serious because there is no reduction in titratable alkalinity. The feed of N-Sol A resulted in good flocculation aid as shown in jar tests and plant operation.

Further work, involving the continuous preparation of this sol, is now in development and has shown that it is easily prepared and controlled over long periods of continuous application. Proportioning pumps are being used for feeding both the silicate and the aqueous solution of ammonium sulphate.

3. *N-Sol C.* The first method employed in activation by gaseous reagents involved the use of N-Sol C *(12)* or chlorine. In it, the gas feeder was used to feed the chlorine, and the dual tank system was used. An arbitrary rate of flow, as indicated by the rotameter, was used and adjusted to obtain the desired endpoint. When this endpoint was reached, the flow in the rotameter was held at this point. The rate of addition of chlorine was checked by differential weighing of the chlorine cylinder.

The degree of neutralization was checked indirectly by means of an iodimetric titration using 0.1 *N* sodium thiosulphate. This test affords a means of determining the amount of chlorine present in the form of sodium hypochlorite. A 10 ml. sample diluted to 100 ml. was strongly acidified with glacial acetic acid. Twenty milliliters of 10% KI were added to produce an excess of iodide. A test of 10.0 to 11.0 ml., representing an available chlorine residual of 3550 to 3900 p.p.m., gave satisfactory sol formation during experimentation. Higher values increased gelation tendencies

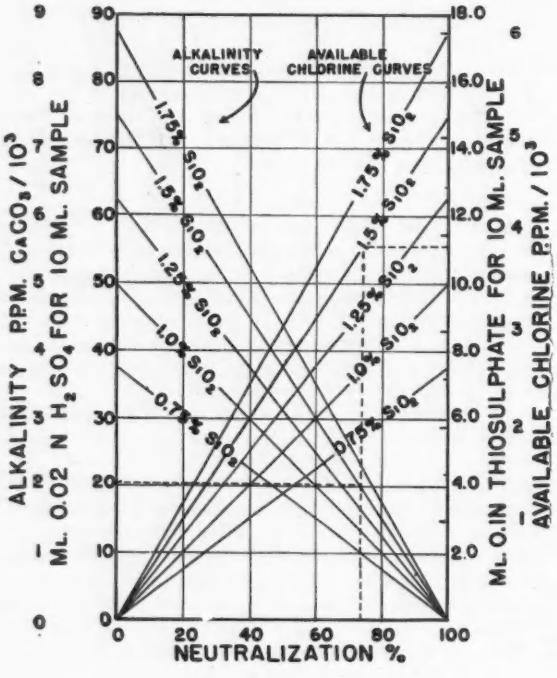

FIG. 4
The Relation Between Alkalinity and Neutralization of Silica at Various Concentrations and Relation Between Alkalinity and Available Chlorine for the Reaction of N-Sol C.

Figure 4 shows a graphical arrangement of determining the alkalinity of the chlorine sol from the available chlorine test. This figure is also useful in determining percentage of neutralization and alkalinity for other sols in which the addition of the reactant reduces the alkalinity.

An example of the use of the graph is illustrated. For a thiosulphate test of 11.0 ml., representing an available chlorine concentration of 3900 p.p.m., a line is projected horizontally to the curve for 1.5% SiO_2, the aging concentration. A vertical projection at this intersection shows a 73% neutralization for the reaction. The intersection of the vertical projection with the alkalinity curve of 1.5% SiO_2 shows that the alkalinity of the chlorinated sol is approximately 2050 p.p.m. as $CaCO_3$ by horizontal projection to the alkalinity reading.

The efficacy of the method was aptly demonstrated in plant operation and by jar tests in which the sol gave results comparable to the Baylis sol in aiding flocculation and slightly better in color reduction. The available chlorine in the sol was entirely absorbed in the coagulation treatment, as naturally would be expected.

The reaction mechanism in the activation of silicate with chlorine gives as products: activated silica, sodium chloride, and sodium hypochlorite. Since the hypochlorite contains, in effect, the same oxidizing power as the original chlorine, none of the chlorine applied is lost, but is available for sterilization and oxidation of organic materials. Thus, the actual cost of chlorine as an activator is nothing, since it will replace an equivalent amount already used in the filter plant.

4. *Carbon Dioxide.* The last preparation tried on plant scale was the continuous activation with gaseous carbon dioxide. An extended run was made at 85% reaction and a short run was made at 100% reaction Both in actual filter plant operation and in jar testing, the sol proved efficient as a coagulant aid. The sodium carbonate formed in the reaction buffers the alkalinity so that gelation is noncritical. This has been proved by actual storage of the finished product without dilution. The method is versatile in that a harmless gas is used.

Recent indications have shown that colloidal silica can be used in softening plants to advantage. Where carbon dioxide is produced for recarbonation, the method should be advantageous, if the carbon dioxide can be metered under constant pressure.

5. *Sulphur Dioxide.* The use of sulphur dioxide has been tried in the laboratory but has not been developed extensively enough to elaborate on it to any great degree. Jar tests at 3 p.p.m. $-SiO_2-$ have shown that this reagent may be superior to the Baylis sol. It appears as though gelation will not be as critical as in the Baylis procedure.

The method should be adaptable in a sulphite mill where SO_2 is produced, if there be means of delivering it to the filter plant under a few pounds of pressure.

Experience at the Interlake Division

The source of water at this plant in Appleton, Wis-

TABLE I.—KEY TO ACTIVATED SILICA PREPARATIONS

Sol Type	Activating Agent	Reaction, %	Agent Per Lb. Silicate, lb.	SiO_2 Dilution, %		Aging, hr.	Approx. Alkalinity p.p.m. $CaCO_3$		Approx. Gel Time in Aging, hr.	Flocculation	Application	
				Aging	Finished		Aging	Finished		Aid	Lab.	Plant
Batch Preparations												
Baylis	66° Bé H_2SO_4	85	0.129	1.5	1.0	1-2	1100	735	3	Excellent	X	X
Modified Baylis	66° Bé H_2SO_4	85→95*	0.129+0.015	1.5	0.5	1-2	1100	155	½	Excellent	X	X
N-Sol A	$(NH_4)_2SO_4$	100	0.190	1.75	1.3	1-2	8850	6600	24	Excellent	X	X
Baylis	66° Bé H_2SO_4		0.053									
N-Sol A	$(NH_4)_2SO_4$	100	0.115	1.5	1.0	1-2	5250	3500	16	Excellent	X	X
N-Sol B	Alum	75	0.206	1.5	1.0	1-2	1850	1230	24+	Fair	X	
Acid sulphate	$NaHSO_4$**	79	0.311	1.5	1.0	1-2	1600	1060	5	Good	X	X
Bicarbonate	$NaHCO_3$	85	0.205	1.5	1.0	1-2	13500	9000	24+	Good	X	X
Bicarbonate	$NaHCO_3$	100	0.241	1.5	1.0	1-2	15200	10200	12	Excellent	X	X
Continuous Preparations												
Baylis	66° Bé H_2SO_4	±85	0.129	1.5	Infinite	1.2	900–1250	.....	3	Excellent	X	X
N-Sol A	$(NH_4)_2SO_4$	100	0.190	1.5	Dilution	1.2	7600	.....	12+	Excellent	X	X
N-Sol C	Cl_2	±75	0.0763	1.5	on	1.6	1850	.....	3	Excellent	X	X
Carbon dioxide	CO_2	85	0.0537	1.5	Admittance	1.6	7600	.....	12+	Good	X	X
Carbon dioxide	CO_2	100	0.0632	1.5	to	1.6	7600	.....	8+	Excellent	X	X
Sulphur dioxide	SO_2	85	0.0785	1.5	System	1.0	1100	.....	..	Excellent	X	

* Two step neutralization with final acid addition after aging and dilution.
** 79% reaction as calculated from alkalinity. Reaction factor is actually 90% on basis of pure chemical, but water present in commercial product reduces neutralization to that recorded.
Silicate used in above analyzed 8.9% Na_2O, 28.7% SiO_2.

consin is the Fox River. An average analysis of this water during the last six months is as follows:

pH	8.3
Color in Pt units, p.p.m.	25
Turbidity, p.p.m.	30
Total hardness as $CaCO_3$, p.p.m.	165
Calcium hardness as $CaCO_3$, p.p.m.	80
Alkalinity to methyl orange, p.p.m.	145

This water is subject to quick changes due to pollution and artificial turbidity. It is heavy with algae during summer periods.

The filter plant will not be described fully. The design is one of the older conventional types with two "straight run" sedimentation basins in parallel preceded by two flocculators in series. The overall detention of these units is slightly longer than at the Wisconsin Rapids Division. The average flow is 5.5 m.g.d. and must be handled by six filters having a surface area of 1536 square feet, or a unit rate of filtration of 2.5 gallons per square foot per minute. The filter sand, 0.35 to 0.40 mm. in size, is finer than average to produce the desired quality of finished water, especially during the algae periods. The clear-well is small.

Alum is fed volumetrically at 40 to 90 p.p.m. and chlorine is added in quantities just short of enough to carry to the clear well, since it is necessary that no chlorine be present in the washing of unbleached pulp.

Preliminary jar testing demonstrated that activated silica was effective on this water at approximately the same concentrations as at the Wisconsin Rapids' Division. With this in mind, the equipment for the continuous production of N-Sol C was used at Appleton for three days early in June of last year. This limited pilot plant trial definitely showed the possibilities of activated silica. A heavier and denser floc formed which settled faster in the sedimentation basins.

However, filter plugging was again experienced due to carry-over of some of the silica-alum floc to the filter beds. Plugging was more detrimental at this division because of the finer filter media.

An analysis of the condition is identical to that at the Wisconsin Rapids Division; the causes of plugging are mechanical and hydraulic imperfections which have to be rectified by mechanical and hydraulic modifications. These are now being made and it can be said with confidence that the trouble should be definitely eliminated.

Experience at the Biron Division

This plant, three miles above the Wisconsin Rapids Division, is also on the Wisconsin River. Although no long term analysis of the river water at this point is available, it is, no doubt, quite similar to that already shown.

The physical layout consists of two 27,000 gallon flocculators in series followed by two 400,000 gallon around-the-end sedimentation basins in parallel. They feed four filters in series having a total area of 1536 square feet. Since the average consumption is approximately 3.75 m.g.d., the unit rate of filtration is 1.7 gallons per square foot per minute.

The filter media is sand of 0.33 to 0.50 mm. average size. Palmer agitators have been installed recently. Alum is fed volumetrically and varies from 70 to 130 p.p.m. Enough chlorine is fed to the effluent from the clear well to provide a residual of 0.5 p.p.m. at the machines.

Since the boiler makeup is well water, there was no special objection to the application of silica prepared continuously by the N-Sol A reaction. For two weeks during the middle of October, 1945, a feed of 5 p.p.m. $-SiO_2-$ was applied between the first and second flocculators. An extremely dense and heavy floc resulted. The influent water to the filters carried little suspended floc to the filters. There was no filter plugging.

It was possible to cut the alum requirement from 90 p.p.m. to 75 p.p.m. without increasing finished color. A sparkling clear filtered water was produced. Since development time was limited, the silica dosage was never reduced, but it is reasonable to assume that 3 p.p.m. $-SiO_2-$ would have worked as favorably as at Wisconsin Rapids. The number of backwashes remained the same. Since this plant is not taxed for capacity, flocculation and sedimentation efficiency is somewhat higher. These features make possible optimum results in application of coagulant aids.

Application of the Various Processes

The type of sol chosen, if plant development work indicates coagulant aid with colloidal silica, is governed by comparative efficiencies and economies. The added chemical cost is approximately $0.40 per million gallons at 1 p.p.m. $-SiO_2-$ A sol such as N-Sol C, or the chlorine feed, reduces this cost slightly.

The continuous preparation permits automatic operation, facilitates the use of smaller equipment, and

produces sols comparable to those by the batch method. The application of gaseous reagents such as chlorine and carbon dioxide are highly favorable for continuous operation. The flow can be regulated by means of one of the modern and accurate orifice type gas feeders. The countercurrent flow of gaseous reagents upward to diluted silicate downward has been proved effective in the experimentation performed. Whether this is the ideal method is not yet definite, but it is simple and easy to handle.

The aging dilutions used, the percentage reaction applied, the length of aging, and the final dilutions used in this work are not recommended as standards, but may offer a starting point for those interested. The effectiveness of the silica sol, no doubt, differs appreciably with different waters, and certain alterations should make the sol more effective for different applications.

Conclusion

In general, the observed results produced by the application of silica hydrosol are as follows:

1. More effective coagulation during both warm and cold water periods, and especially during the cold water period.
2. Larger and denser floc particles.
3. A saving of alum or alum and alkali during periods of easier coagulation.
4. Broadening the effective pH range of treatment and allowing the preparations of a treated water of somewhat higher pH.
5. Longer filter runs, especially during periods of cold water or high color, or both, when coagulation is difficult.
6. Buffering sudden chemical changes of water characteristics during spring run-offs or heavy rains.
7. Reduction of the raw water color by better than 90% and producing water of somewhat lower color than in straight alum coagulation.
8. Production of a filtered water of higher quality, less turbidity, with a sparkle of spring water.
9. Prevention of "after precipitation" of alum in the clear well during cold water periods when the reaction of alum is extremely slow and often comes to completion only after filtration.
10. Reduction of dissolved silica in the filtered water.

The preceding advantages are desirable in the operation of any filter plant. The value of activated silica can be investigated through simple jar tests. Plant development, shown in this paper, hinged much on the results of such jar testing and actually proved to be successful if such tests indicated positive aid.

Acknowledgment

Many valuable ideas in the application of continuous processing were suggested by H. R. Hay and F. R. MacGonagle of the Philadelphia Quartz Company.

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TAPPI Notes

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TAPPI Standards

As a result of the recent balloting by the membership of the Technical Association the following methods have been advanced to the status of official standards as of March 1946:

T 227 m-43	Freeness of Pulp
T 220 m-42	Physical Testing of Pulp Handsheets
T 446 m-42	Creasing Quality of Paper
T 457 m-42	Stretch of Paper and Paperboard
T 466 m-44	Degree of Curl and Sizing of Paper

In view of the criticisms raised by various members it has been decided to hold the following as tentative standards:

T 218 m-45	Forming Handsheets for Optical Tests of Pulp
T 437 m-43	Dirt in Paper
T 456 m-44	Wet Tensile Breaking Strength of Paper and Paperboard
T 462 m-43	Printing Ink Permeation of Paper

Colloid Chemistry

The Reinhold Publishing Company has recently issued Colloid Chemistry, Theoretical and Applied, collected and edited by Jerome Alexander (Volume VI—General Principles and Specific Industries Synthetic Polymers and Plastics) 1215 pp. 6 x 9).

As in the previous volumes of this classical text the various chapters have been prepared by authors who are the leaders in their respective fields.

Some of the chapters of interest to the cellulose industries include: Some Principles Underlying the Behavior of Plastics by Dr. Alexander; Nitrocellulose by J. Barsha; Viscose, by S. A. Moss, Jr.; Polystyrene by Allen and Humphrey; Polyvinyl Resins by G. C. Nutter, Urea Formaldehyde and Related Resins, by George Barsha; Silicones, by Rochow and Norton, Ion Exchange Resins, by Fred. J. Myers, Zein, by Swallen and Daneby; Luminescent Paints and Inks, by Alexander Strohl; Lubricating Greases as Colloidal Systems, by C. J. Boner; The Flotation Process, by A. M. Gaudin; Thixotropy, by Green and Weltmar; Industrial Adhesives, by Alfred E. Gutman; Colloid Chemistry of Clay Minerals and Films, by Hauser and Le Beau; The Commercial Surface Active Agents, by L. H. Flelt; Rubber Latex Technology, by Albright and Lees; and Electron Microscopy, by Zworkin and Hillier.

Dr. Alexander and his coauthors are to be congratulated for their efforts in bringing together in one authoritative volume the most up to date information on the aspects of colloid chemistry covered in this book.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $20.00 per copy.

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Butterworth CALENDER ROLLS

New York Paper and Pulp Market Review

Paper Outlook Tight Through 1947—Containers More Plentiful—Kraft Liner Increased $8 Per Ton — Increase In Paperboard Production — Wastepaper Prices and Regulations Change April 13.

Office of the PAPER TRADE JOURNAL,
Wednesday, April 10, 1946.

Most grades of paper will be tight for the rest of 1946. New plant expansions probably will not catch up with all demands even through 1947. Especially hard to get will be slick coated and machine-finished paper, moisture repellent, such as butcher paper, and kraft used for paper bags.

The issuance of amendment No. 1 to maximum price regulation No. 32, effective April 1, 1946, increases maximum prices for Fourdrinier Kraft liner and corrugating material by amounts equivalent to $8.00 per ton. This represents the third increase authorized for these grades of paperboard since price control was originally instituted in this field by voluntary agreement in July of 1941. On that date, Kraft containerboard prices were stabilized at approximately $60.00 per ton. This was raised to $63.00 per ton by amendment 4 to Revised Price Schedule No. 32 (effective April 1, 1943) and to $66.00 per ton by amendment 23 to Revised Price Schedule No. 32 (effective October 3, 1945).

The considerations leading to the present action are very similar to those involved in the issuance of Amendments 4 and 23 to Revised Price Schedule No. 32. As noted in the Statements of Consideration accompanying the two previous amendments, Kraft containerboard constitutes a very essential item and one which has operated and is operating as a serious bottleneck to the free movement of supplies required for essential military and civilian purposes. At the present time inventory of raw materials for corrugated boxes is considerably below normal because of the extreme shortage of Kraft containerboard. Production of other containerboards (jute liner and chestnut, straw and bogus corrugating materials) is not sufficient to overcome the extreme shortage of Kraft containerboard. Under normal conditions Kraft containerboard constitutes more than half the supply of raw materials for the manufacture of corrugated and solid fibre containers. The current shortage is due to three factors:

1. The general inadequacy of existing containerboard manufacturing capacity to meet current demand for containerboard even at maximum production level.
2. Pulpwood shortages.
3. Diversion of containerboard manufacturing capacity into the production of more profitable items.

The production of wood pulp, paper and paperboard in February was substantially greater in 1946 than in 1945, and the daily average output for February of this year was 7% greater than for January 1946, according to the Bureau of the Census. February pulpwood receipts were 143,000 cords larger than in January. Pulpwood receipts in February were 1,496,453 cords, as compared with 1,353,943 cords in January. The largest increase took place in the South, where receipts increased by 112,000 cords. All other regions registered declines except the Lake States where a slight increase occurred. Consumption was slightly less in February than in January, while inventories increased by 220,000 cords.

The consumption of fibrous materials other than wood pulp amounted to 661,795 tons, of which waste paper was 557,624 tons in February, compared with 708,084 tons and 590,097 tons respectively in January. Approximately the same percentage decline occurred in inventories in both cases.

Paper and paperboard production in February was 1,438,290 tons, some 71,000 tons less than the January figure, reflecting the shorter working month. The production of all grades of paper and paperboard was lower in February, with the exception of container board, which rose to 315,423 tons from the abnormally low figure of 303,522 tons in January.

The index of general business activity for the week ended March 30 rose to 134.0 from 132.6 in the previous week, compared with 144.8 for the corresponding week in 1945. The index of paperboard production rose to 165.2, compared with 162.0 in the previous week, and with 160.1 for the corresponding week in 1945.

Paper production for the week ended March 30 was estimated at 104.9%, compared with 88.9% for the corresponding period in 1945, with 85.7% for 1944, with 88.6% for 1943, and with 102.2% for the corresponding week in 1942.

Paperboard production for the week ended March 30 was 100%, compared with 100% for 1945, with 93.0% for 1944, with 95.0% for 1943, and with 100.0% for the corresponding week in 1942.

Wood Pulp

Wood pulp production was 775,760 tons in February, only about 10,000 tons less than January, despite the fewer working days. The much higher daily average production in February was largely due to increases in the output in sulphate wood pulp. Production of all other grades was somewhat less in February than in January.

Consumption of wood pulp in paper and paperboard manufacture totaled 905,266 tons in February, some 41,000 tons less than in January. An increase in inventories of wood pulp in the hands of paper and paperboard manufacturers of about 21,000 tons was due to the excess of receipts over consumption of imported wood pulp.

Rags

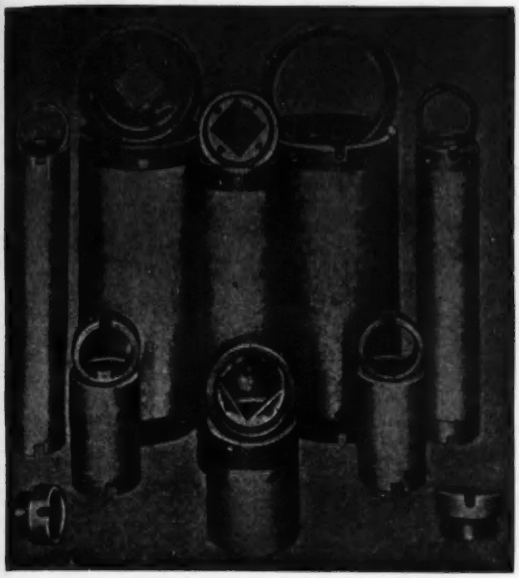
The market for cotton cuttings is very tight. All grades are in heavy demand and supplies are still too small to take care of capacity mill operations. Prices firm at ceiling levels.

Demand for old cotton rags continues active. The market is tight, especially for roofing rags. Mills are buying domestic rags and substitutes of cotton waste and wool card strips. Some lots of foreign rags have been received. Domestic roofing rags are currently $29 per ton shipping point. Domestic twos and blues are $44.

Old Rope and Bagging

Manila fiber and sisal continue in strong demand. Sisal strings currently bring 4c, and jute strings

(Continued on page 58)



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Chicago 4, Illinois

4 to 44 tons

NORTHWEST

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, April 10, 1946.

BLANC FIXE—Prices on blanc fixe continue unchanged at prevailing levels. Demand is reported fair. The pulp is quoted at $40 per ton, in barrels, at works. The powder is quoted at $60 per ton, f.o.b. works.

BLEACHING POWDER—Demand continues heavy. Production reported high. Quotations are unchanged. Bleaching powder is currently quoted at from $2.50 to $3.10 per 100 pounds. All prices in drums, car lots, f.o.b. works.

CASEIN—Supply under heavy demand. OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more 24 cents per pound; 2,000 pounds, 24¼ cents per pound; less than 2,000 pounds, 24¾ cents per pound f.o.b. shipping point. Imported 24 cents.

CAUSTIC SODA—Demand very heavy. Production large, but deliveries slow. Market tight. Supply of drums short. Solid caustic soda is currently quoted at $2.30 per 100 pounds. The flake and ground are currently quoted at $2.70 per 100 pounds. All prices in drums, car lots, f.o.b. works.

CHINA CLAY—Current demand is reported moderate on many grades of china clay. Quotations unchanged. Domestic filler clay is quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mines. Imported china clay is currently quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Supply adequate to meet very heavy demand. Favorable outlook, but short supply of tank cars and cylinders slows shipments. Chlorine is currently quoted at $1.75 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—The rosin market reports no offerings or sales. The OPA price on "G" gum rosin is $6.74 per 100 pounds, in barrels, at Savannah. "FF" rosin is established quoted at $6.70 per 100 pounds, in barrels at New York. Average price on seventy per cent gum rosin size is $6.95 per 100 pounds, f.o.b. works.

SALT CAKE—Prices on salt cake continue to be reported unchanged. Domestic salt cake is currently quoted at $15 per ton, in bulk. Chrome cake is currently quoted at $16 per ton. All quoted prices in car lots, f.o.b. shipping point.

SODA ASH—Heavy demand for soda ash is reported to absorb current production. Market is tight. Prices continue to conform to prevailing levels. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Corn market is reported steady. Offerings good at this date. Demand continues heavy. Prices unchanged on starch. Pearl is quoted at $3.72 per 100 pounds. Powdered starch is quoted at $3.83 per 100 pounds. All prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA—Demand good. Supply situation is favorable. Prices of the commercial grades are currently quoted at from $1.15 to $1.25 per 100 pounds. The iron free is currently quoted at $1.75 per 100 pounds. All prices in bags, car lots, f.o.b. works.

SULPHUR—Current consumption of sulphur continues heavy. Market situation unchanged. The quotation on annual contracts continues at $16 per long ton, f.o.b. mines. The current price on contracts at Gulf Ports is $17.50 per long ton.

TALC—Demand reported good. Domestic grades are currently quoted at from $16 to $21 per ton at mines. Canadian at $24 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—			
Roll, contract	*$67.00	@	—
Sheets	75.00	@	—
* OPA Maximum Price.			
Kraft—per cwt.—Carload Quantities Zone A, Delivered			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—
* OPA Manufacturers' Prices.			
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila Wrapping, 35 lb.	6.00	"	6.25
No. 2 Manila Wrapping, 35 lb.	5.75	"	6.00
Boards, per ton—			
News	*54.00	@	—
Chip	*54.00	@	—
Sgl. Mia. L1. Chip	*65.00	@	—
White Pat. Coated	*79.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.10@$46.00	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper
Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.50
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.25
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.60	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$86.00		
Unbl. Softwood Sulphite	74.00		
Bl. Hardwood Sulphite	83.50		
Unbl. Hardwood Sulphite	71.50		
Bl. Mitscherlich	81.00		
Unbl. Mitscherlich	72.00	@	82.00
N. Bleached Sulphate	86.00		
S. Bleached Sulphate	79.00		
N. Semi-Bleached Sulphate	82.00		
S. Semi-Bleached Sulphate	75.00		
N. Unbl. Sulphate	73.00		
S. Unbl. Sulphate	63.50		
Bl. Soda	76.00		
Unbl. Soda	72.00		
Groundwood	50.00		

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

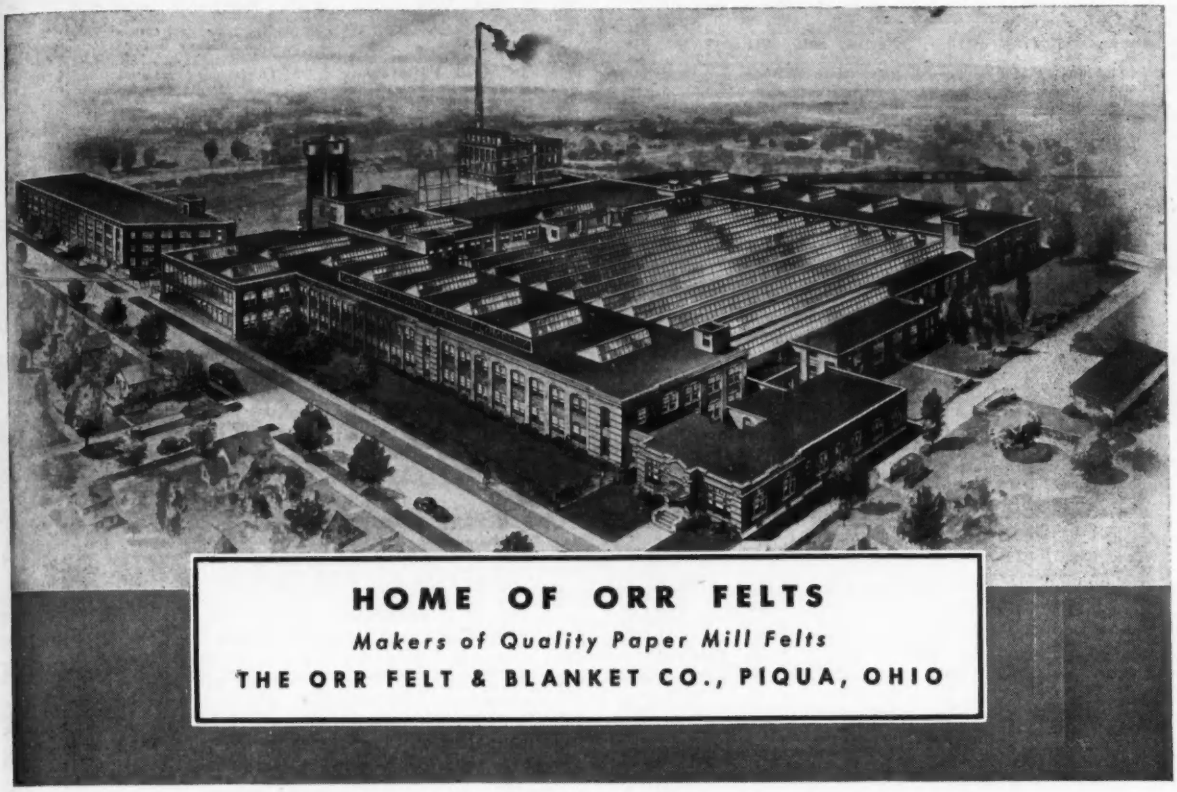
Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.



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EN-DURO —a super-quality core to meet demands for extra strength and service.

NON-RETURNABLE

RHINO —an extremely tough and strong core with a low cost that meets the market for a standard product giving superior service.

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SONOCO PAPER CARRIERS

J. Andersen & Company

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NEW YORK

Importers of Pulp

BLEACHED AND UNBLEACHED SULPHITE, KRAFT PULP AND GROUND WOOD

GET FACTS!

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CAMERON MACHINE COMPANY

61 POPLAR STREET, BROOKLYN 2, N. Y.

MIDWEST OFFICE: 111 W. MONROE ST., CHICAGO 3, ILL.

Old Rags

White, No. 1—			
Repacked	*3.80	@	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Thirds and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.30	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

Pre-War Quotations

All Prices Nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.25	@	3.30
Wool Tares, light	3.25	"	3.50
Wool Tares, heavy	3.50	"	3.75
Bright Bagging	3.25	"	3.50
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	1.50	"	—

* OPA Maximum Prices.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Mixed Books	1.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Mixed Ledger, colored	2.00	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.95	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
Old Corrugated Containers	.82½	"	—
Mill Wrappers	1.10	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¼	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—
(Hard Fiber)			
Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¾
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¾
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04¾
New Black Soft	.03¼
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¾

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	@	3.50
No. 1 Clean Bright—Sisal Strings	.04	"	—
No. 2 Clean Bright—Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.00	"	3.25
South America	—	"	3.25

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Underwear Cutters, Bleached	.06	"	.06¼
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03¼
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05¼	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03¼	"	.03½
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¼	"	.06½
Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¾	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03¼
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05¼	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03¼	"	.03½
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¼	"	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—Repacked	3.80	@	—
Miscellaneous	3.20	"	—
White No. 2—Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—
No. 2	1.45	"	—
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.85	"	—
Quality B	1.80	"	—
Quality C	.95	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

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NEW YORK IMPORTS

WEEK ENDING APRIL 6, 1946

SUMMARY

Cigarette Paper	20 cs.
Drawing Paper	4 cs.
Filter Paper	14 cs.
Writing Paper and Envelopes	3 cs.
Tracing Cloth	66 cs.
Glazed Paper	2 cs.
Decalcomania Paper	51 cs.
Miscellaneous Paper	1 reel

CIGARETTE PAPER

Penson & Co., *Alexander R. Shepherd,* Alicante, 20cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., *Boston City,* Bristol, 1 cs.
Bankers Trust Co., *Boston City,* Bristol, 3 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., *Boston City,* Bristol, 14 cs.

WRITING PAPER AND ENVELOPES

Bankers Trust Co., *Boston City,* Bristol, 3 cs.

TRACING CLOTH

Keuffel & Esser Co., *American Scout,* Liverpool, 44 cs.
E. Dietzgen & Co., *Bayano,* Liverpool, 22 cs.

GLAZED PAPER

Walker Goulard Plehn Co., Inc., *Bayano,* Liverpool, 2 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Inc., *Bayano,* Liverpool, 51 cs. (simplex and duplex).

MISCELLANEOUS PAPER

H. Reeve Angel & Co., Inc., *Bayano,* Liverpool, 1 reel.

RAGS, BAGGINGS, ETC.

Castle & Overton, Inc., *Edam,* Antwerp, 1449 bls. rags, 124 bls. old rags.
New England Waste Co., *Canruaria,* Rio de Janeiro, 133 bls. cotton waste pickers.
Royal Manufacturing Co., *Canruaria,* Rio de Janeiro, 77 bls. cotton waste pickers.
New England Waste Co., *Canruaria,* Recife, 238 bls. cotton waste pickers.
C. Kutz, *Canruaria,* Recife, 258 bls, cotton waste pickers.
Royal Manufacturing Co., *Canruaria,* Recife, 216 bls. cotton waste pickers.
Schimmel Trading Co., *Wacosta,* Bombay, 100 lbs. cotton waste.
New England Waste Co., *Wacosta,* Bombay, 100 lbs. cotton waste.
Riverside Mills, *Wacosta,* Bombay, 302 bls. cotton waste.
Brandwein Mazur Co., *Wacosta,* Bombay, 275 bls. cotton waste.
Leigh Textile Co., *Wacosta,* Bombay, 700 bls. cotton waste.
S. H. Waldestein Co., *Wacosta,* Bombay, 550 bls. cotton waste.
C. Kutz, *Wacosta,* Bombay, 260 bls. cotton waste.
Camden Fibre Mills, *Wacosta,* Bombay, 196 bls. cotton waste.
M. E. Schoen Co., *Wacosta,* Bombay, 196 bls. cotton waste.
Padawer & Co., *Wacosta,* Bombay, 325 bls. cotton waste.
Volkhart Bros., *Wacosta,* Bombay, 100 bls. cotton waste.
C. Comiter Co., *Wacosta,* Bombay, 100 bls. cotton waste.
O'Brien Products, Inc., *Wacosta,* Bombay, 300 bls. cotton waste.
Textile Paper Supply Corp., *Wacosta,* Bombay, 160 bls. cotton waste.
Lush Cotton Products Co., Inc., *Wacosta,* Bombay, 400 bls. cotton waste.
Meky & Co., Inc., *Wacosta,* Bombay, 250 bls. cotton waste.
Continental Bank Trust Co., *Elysia,* Glasgow, 685 bls. old cotton rags.
Amicale Trading Co., Inc., *American Scout,* Liverpool, 6 bls. rags.
E. Butterworth & Co., Inc., *American Scout,* Liverpool, 80 bls. old bagging.
——— *Bayano,* Liverpool, 16 bls. wool rags, 23 bls. wool thread waste.
Padawer & Co., *Fort Panmore,* Cochin, 200 bls. cotton waste.
Lush Cotton Products Co., Inc., *Fort Panmore,* Cochin, 100 bls. cotton waste.
S. H. Waldestein Co., *Fort Panmore,* Cochin, 800 bls. cotton waste.
C. Kutz, *Fort Panmore,* Cochin, 200 bls. picker waste.
C. Comiter Co., *Fort Panmore,* Bombay, 400 bls. cotton waste.
Volkhart Bros., *Fort Panmore,* Bombay, 100 bls. cotton waste.
Schimmel Trading Corp., *Fort Panmore,* Bombay, 99 bls. cotton waste.
Leigh Textile Corp., *Fort Panmore,* Bombay, 241 bls. cotton waste.
W. Intner, *Fort Panmore,* Bombay, 100 bls. cotton waste.
McKay & Co., *Fort Panmore,* Bombay, 109 bls. cotton waste.
New England Waste Co., *Fort Panmore,* Bombay, 100 bls. cotton waste.
Bender Bros., *Fort Panmore,* Bombay, 100 bls. cotton waste.
Muffen Diollavis, Inc., *Fort Panmore,* Bombay, 300 bls. cotton waste.
Ayres & Co., *Fort Panmore,* Bombay, 390 bls. cotton waste.

OLD ROPE

——— *Boston City,* Bristol, 66 coils.

BONE GLUE

Hewitt & Bros., *Cantuaria,* Santos, 700 bags sheet bone glue.
Trans Atlantic Animal By-Products Co., *Thirlby,* Santos, 1000 bags sheet bone glue.

PAPER OUTLOOK TIGHT

(Continued from page 52)

5.25 to 5.50. Trading in mixed strings is irregular.

Trading in scrap bagging is weak. No. 1 scrap burlap is currently $4.25 and $4.50 eastern mills. Fancy packs are $4.60 and up.

Waste Paper

Demand for waste paper is the heaviest it has ever been to date. Supply is below the level needed to build up an inventory reserve. Dealer buying of bundled news ranges from $17 to $19 per ton.

Four general changes have been made in the regulation establishing OPA ceiling prices on sales of wastepaper by dealers. Amendment 16 to Maximum Price Regulation 30, effective April 13, includes the following changes:

1. Definitions of most wastepaper grades have been liberalized to permit the inclusion of specified types of paper that generally form a part of these grades. This action will (1) resolve differences of interpretation that have arisen as to whether various items may be included and also sell at the ceiling price of the grade, and (2) permit the inclusion of other types of paper that heretofore were definitely excluded but which, under current conditions, are not objectionable.

2. A new grade of wastepaper is established for damaged newsprint. The ceiling price for this grade will be $50 a ton, in rolls, f.o.b. point of shipment. The usual brokerage commission of seven per cent is allowed.

3. A loading charge of $1 a ton heretofore permitted in all parts of the country except the railroad switching district of Chicago is now allowed in Chicago. The Chicago exception was originally established at the request of the Chicago dealers under conditions which are no longer applicable and is now removed at their request.

4. The requirement of monthly inventory statement from dealers who failed to submit a general inventory statement is revoked. This requirement no longer serves a useful purpose, according to the OPA.